

**PROJECT REPORT**

**CODOS**

COMPUTER SCIENCE ENGINEERING

FSBE-IV



THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA

GUJARAT – INDIA.

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(I)

## **ACKNOWLEDGEMENT:-**

This project has been a great mode of understanding and putting to the practice what was covered during the academics. It has also been a valuable experience for us in real times of real life work in the Computer Science and Engineering department which has helped to prepare us to apply ourselves better and become a successful IT professional. Of Course, all this was not possible without the support and guidance of many people, and hence, we would like this to take this opportunity to acknowledge their support towards us.

We are thankful to our project guide Mr. Viral Kapadia Sir for his invaluable encouragement and inspiration and for being a great guide throughout the project.

During this project we have received immense support and assistance from all the intellectual and helpful colleagues. Apart from this, we wish to acknowledge our academics tutors who have mentored us throughout.

## (II)

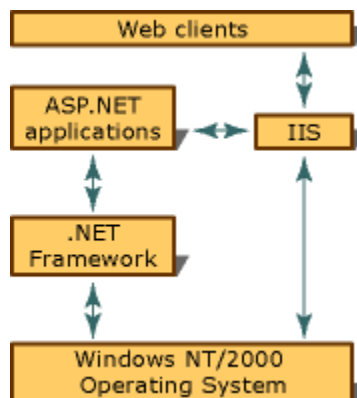
### TECHNOLOGIES USED

#### 1. ASP.NET

##### OVERVIEW

ASP.NET is a unified Web development model that includes the services necessary for you to build enterprise-class Web applications with a minimum of coding. ASP.NET is part of the .NET Framework, and when coding ASP.NET applications you have access to classes in the .NET Framework. You can code your applications in any language compatible with the common language runtime (CLR), including Microsoft Visual Basic and C#. These languages enable you to develop ASP.NET applications that benefit from the common language runtime, type safety, inheritance, and so on.

##### ARCHITECTURE



As the illustration shows, all Web clients communicate with ASP.NET applications through Microsoft Internet Information Services (IIS). IIS deciphers and optionally authenticates the request. If Allow Anonymous is set to **true**, no authentication occurs. IIS also finds the requested resource (such as an ASP.NET application), and, if the client is authorized, returns the appropriate resource.

In addition to the built-in ASP.NET security features, an ASP.NET application can use the low-level security features of the .NET Framework.

## **Features**

- Bundling and minimisation Feature.
- Strongly Typed Data Controls.
- Model Binding - Isolating the Web Form from the Model.
- Value Providers.
- Support for OpenID in OAuth Logins.
- Support for improved paging in ASP.NET 4.5 GridView control.
- Enhanced support for asynchronous programming.
- Support for web sockets.
- Support for HTML5 form types.

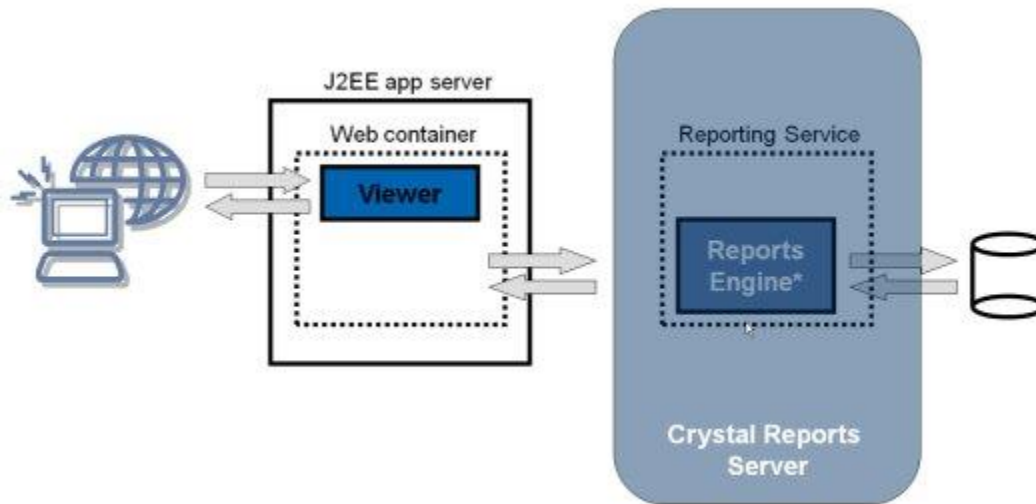
## **2. CRYSTAL REPORTS BY SAP**

### **OVERVIEW**

SAP Crystal Reports is a Business Intelligence tool which is used to generate reports from both SAP and non-SAP data sources. It enables end users to generate reports that include exceptional visualizations and implement new business requirements into reports to reduce dependency on IT and Report developers.

SAP Crystal Reports can connect to any data source that includes Relational databases like Oracle, OLAP data source systems like BW, or also with XML data. You can create a simple report or you can also use complex or specialized tool of Crystal Reports to create advance level reports for end users. It is mostly used for pixel perfect reporting for CEO's and Managers.

## ARCHITECTURE



## FEATURES

- Intuitive design environment
- Design acceleration features
- Powerful data mash-ups
- Wizards and experts for report creation
- Database expert for graphical table linking
- Field explorer to manage report fields
- Drill down in runtime
- Auto save
- Editable preview window
- Browse field data
- Move, resize, and multi select objects
- Custom templates
- Repository for component reuse
- Workbench tool for managing projects
- Automatic patch notification and installation

# **(III)**

## **Project Profile**

### **→Introduction**

#### **Codos:**

Codos is competitive programming challenges for both consumers and businesses, where developers compete by trying to program according to provided specifications. Codos' programming challenges can be solved in a variety of programming languages (including Java, C++, PHP, Python, JavaScript) and span multiple computer science domains like Data Structures, Algorithms, and Mathematical domains like Graph theory and Combinatorics.

In addition to individual programming challenges, Codos also hosts contests where users compete on the same programming challenges during a set period of time. On Codos companies can also host their challenges.

#### **Definition of the System:**

This system is for individual who want to practice and sharp their programming skills as well as companies who want to hire employees or host challenges.

#### **Objective of the system:**

Objective of this system is to provide portal for user to sharpen their programming skills. User can solve the problem and provide the solution. This System evaluates user solution. Also system also provide platform for hosting programming challenges to different companies.

## System Requirement Specification:

### Functional Requirements:

Function	User
Login	All user
Sign Up	All user
Edit Profile	All user
Registration in Challenges	All user
Compile & Test	All user
Submit Solution	All user
View profile	All user
View Previous challenges	All user
View Upcoming Challenges	All user
View Live Challenges	All user
Practice problems	All user
Add challenges	Only Admin/company user
Add Problems	Only Admin

### Non-functional requirement

#### Secure:

- Access of project based on kinds of users.
- Malicious code is run but not effect to sever.

**User friendly:** The GUI will be such that it can be easily learnt by all kinds of user.

#### Limitation



- Use API so required internet for execute program.
- Most preferable browser is chrome.
- Admin is not responsible for putting erroneous challenge.

## **PURPOSE OF THE SYSTEM**

This project aims:

- User can improve their programming skill.
- Companies can hire employees using this site.
- User can improve skill in specific computer area.
- User can download their report of their performance.

## **OVERVIEW OF THE SYSTEM**

Codos is a system that provides online programming platform to the user. In this system we cover vast computer domain like algorithm, mathematical etc. Companies have an added functionality of posting challenges.

Codos is developed in ASP.NET technology and the report are generated using the Crystal Report service of SAP.

**(IV)**

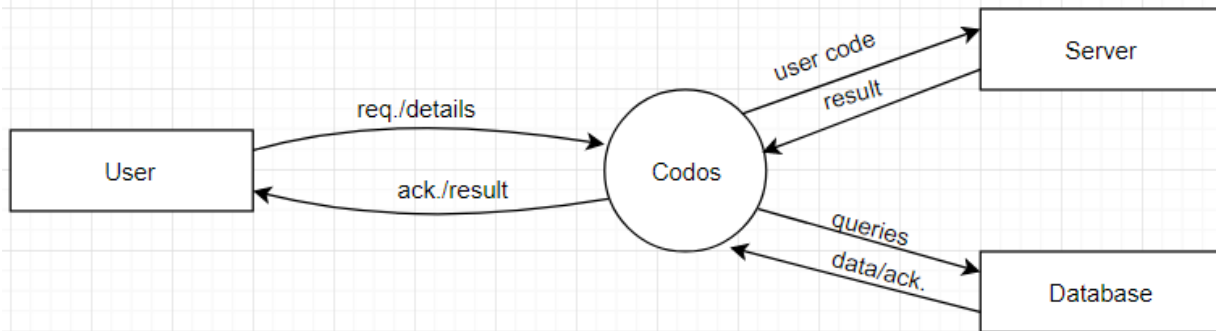
**DFD: -**

**Functionalities:**

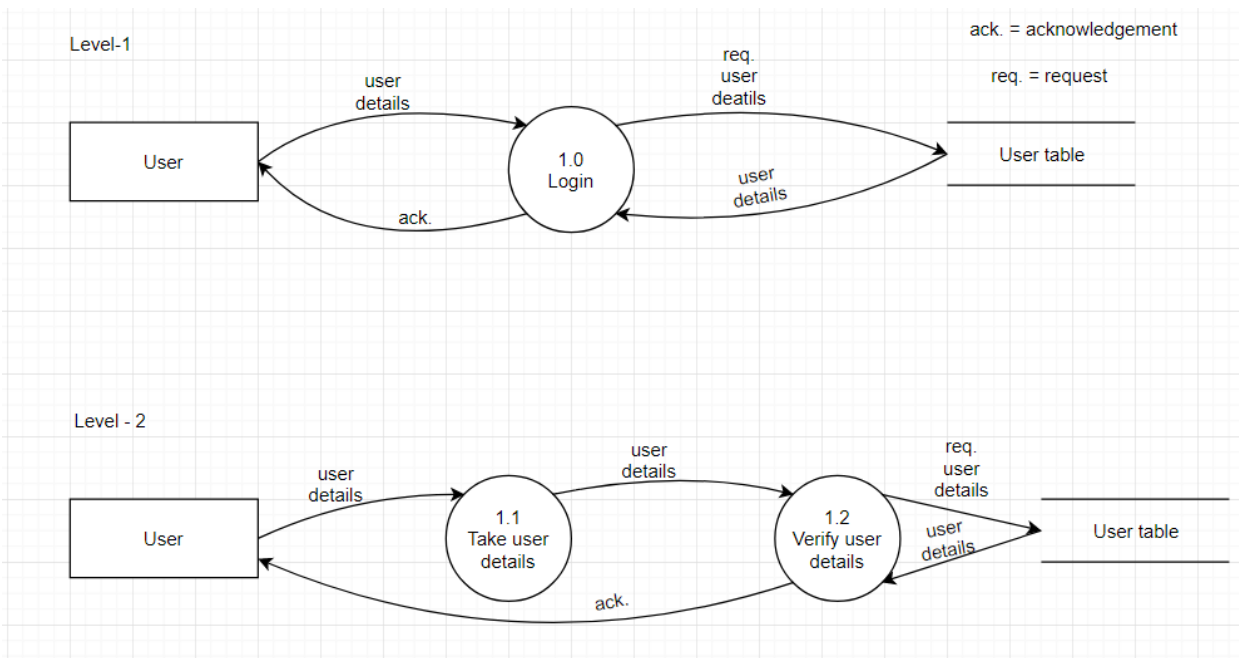
- **Login**
- **Sign Up**
- **Edit profile**
- **Registration in challenges**
- **Compile & Test**
- **Submit solution**
- **Add challenges/problem**
- **View Profile**
- **View Participated Challenges**
- **View Upcoming Challenges**
- **View Live Challenges**
- **View Practice Problem**
- **Create contest**

## Level-0/Context diagram:

Level-0/Context diagram:



## Login:



# Sign Up:

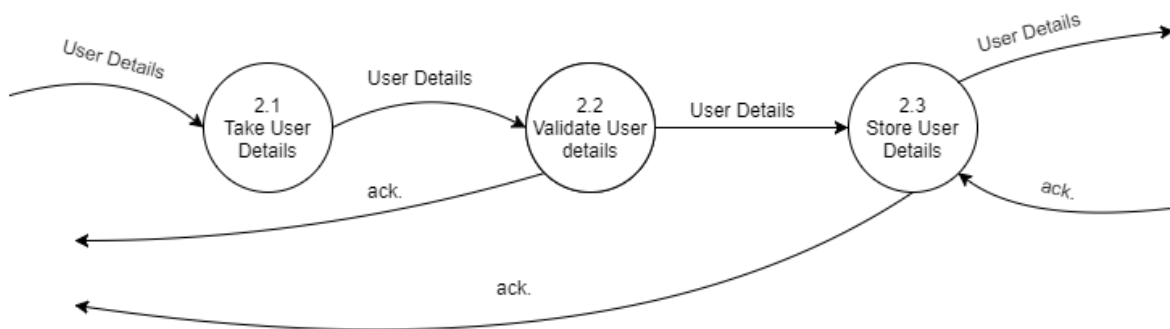
ack. = Acknowledgement

Sign-Up DFD:

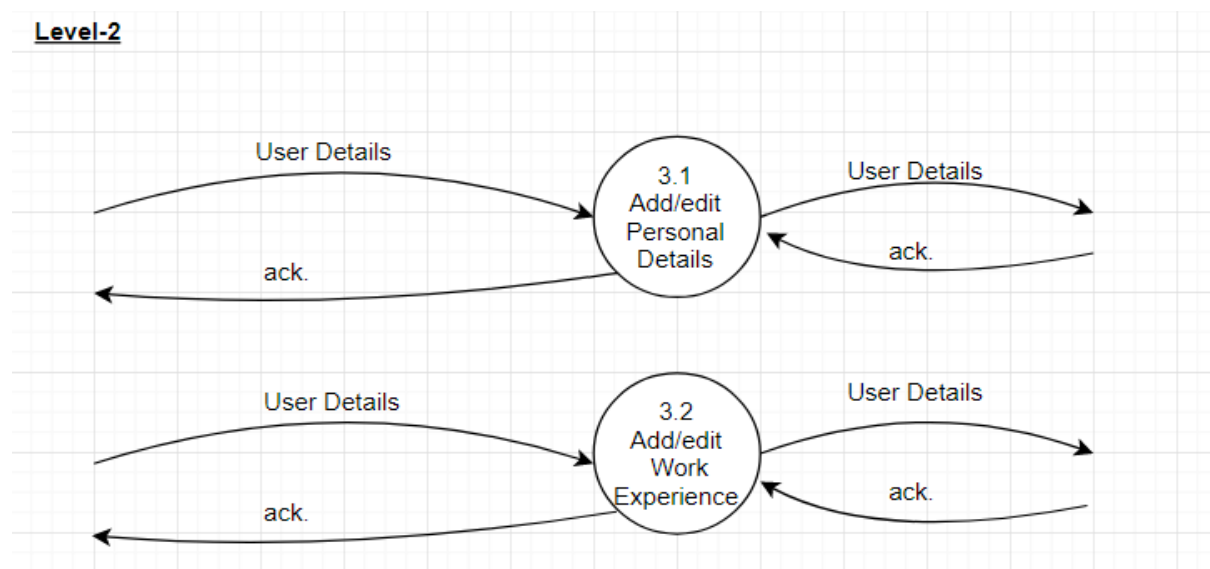
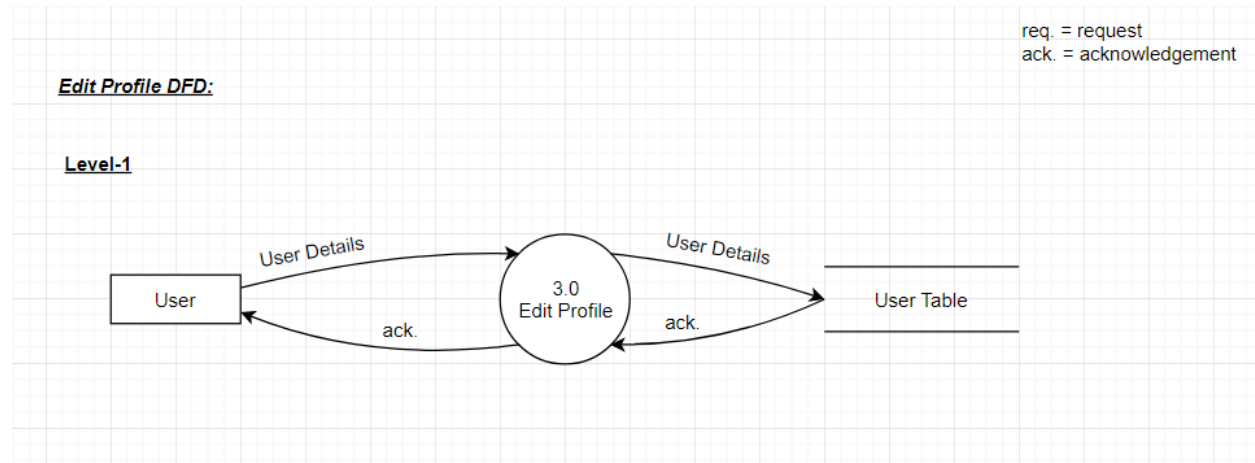
Level-1



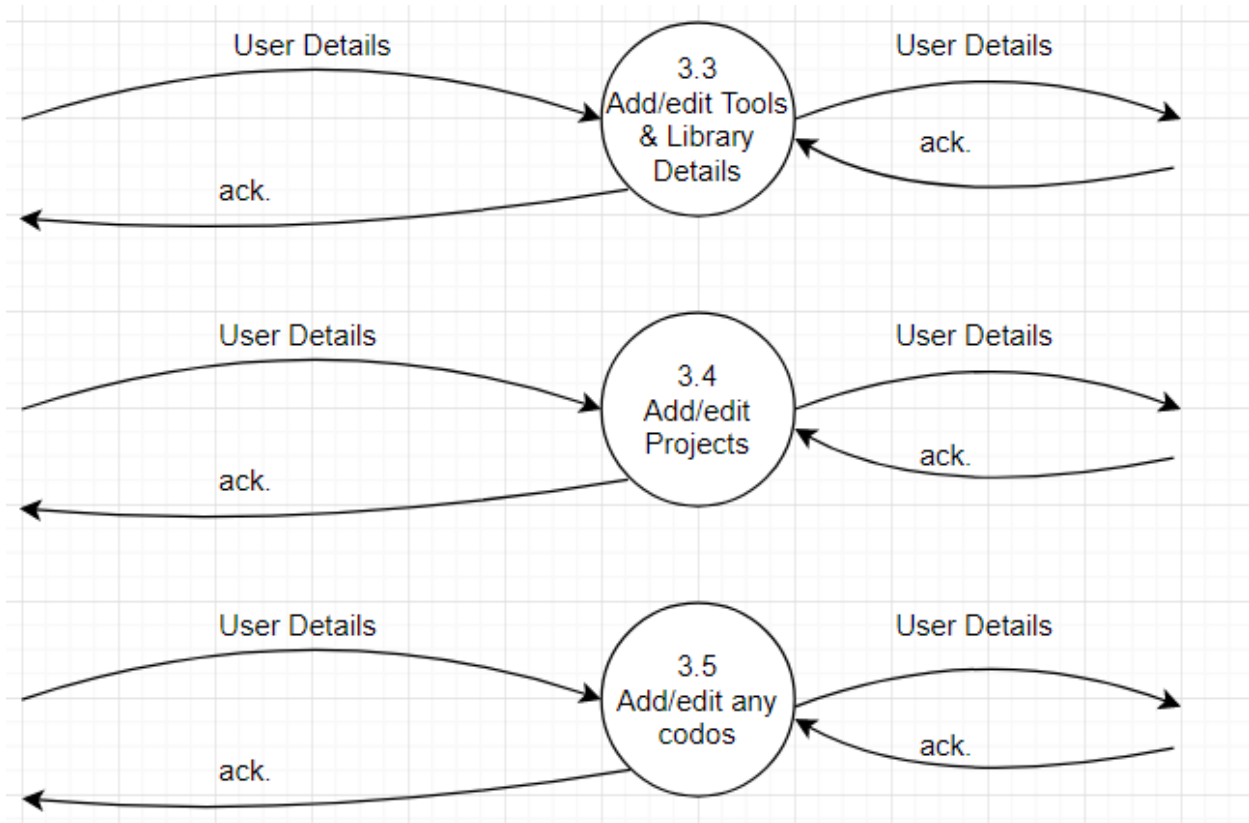
Level-2



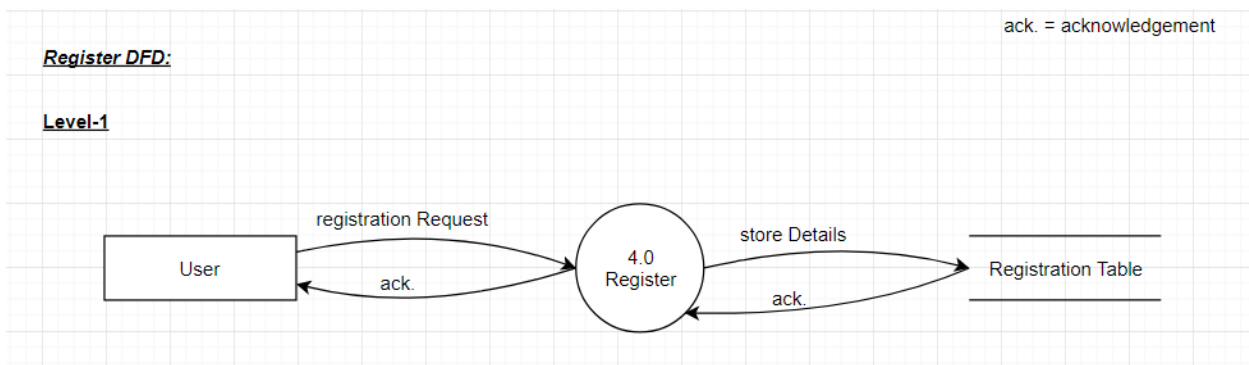
# Edit Profile:



## Level-2(Cont.)

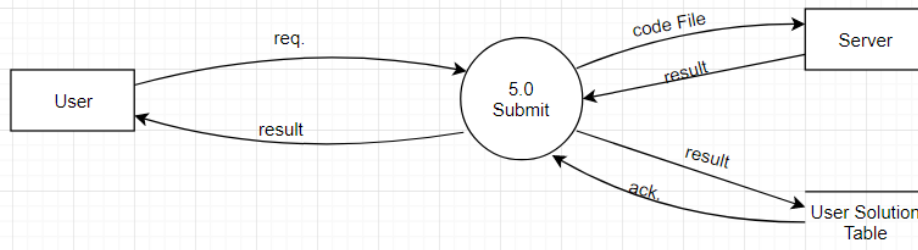


## Registration in challenges:

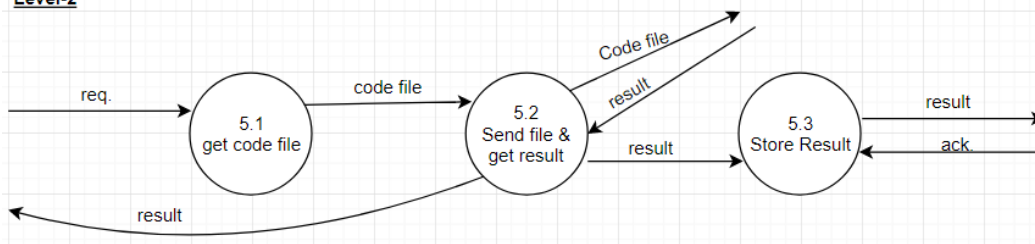


## Submit Solution:

### Level-1

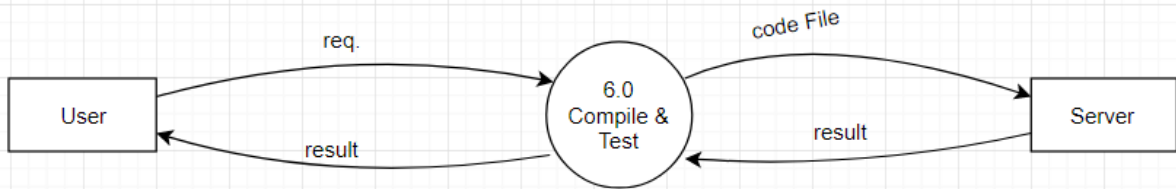


### Level-2

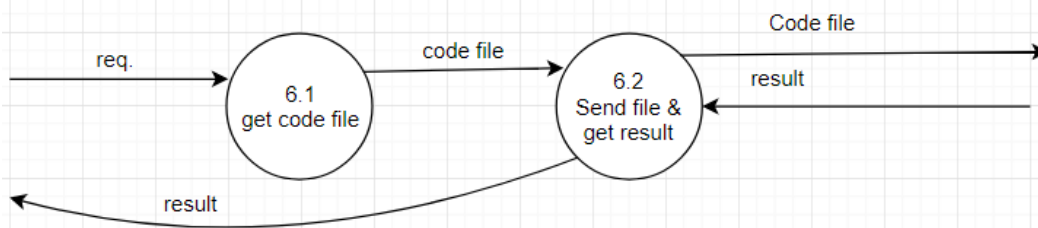


## Compile & Test:

### Level-1

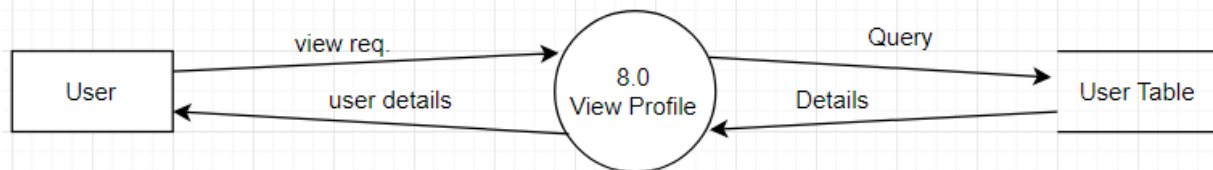


### Level-2



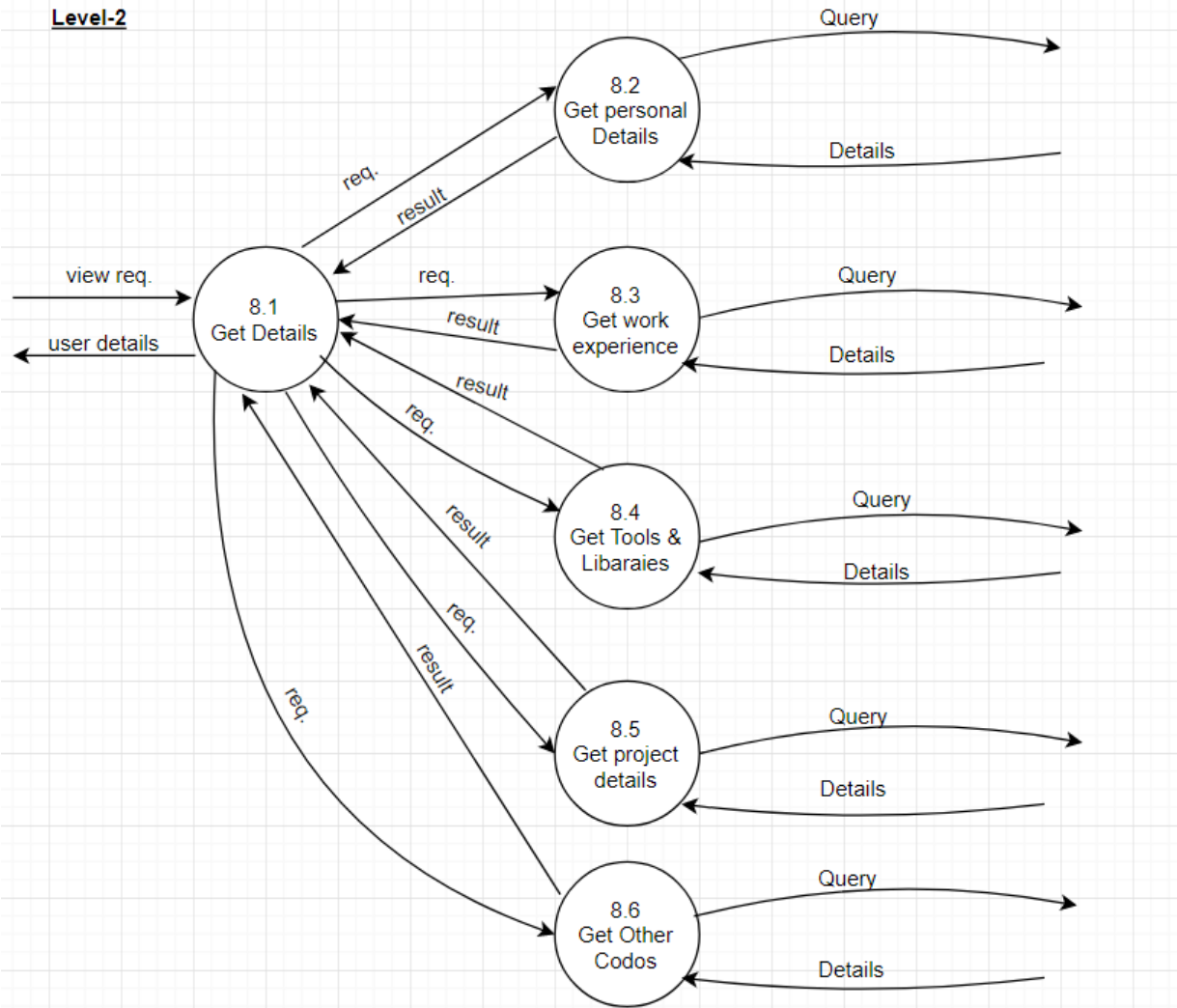
## View Profile:

### Level-1





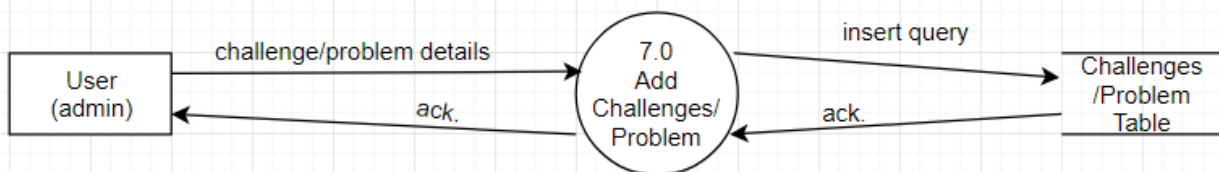
## Level-2



## Add Challenges/Problem:

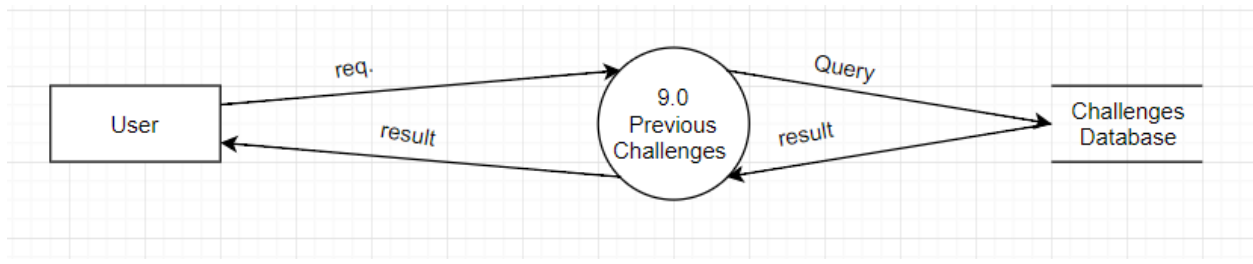
### Add Challenges/Problem DFD:

## Level-1



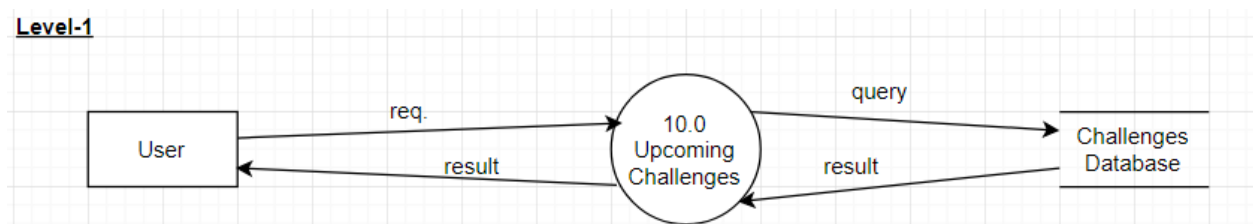
## View Previous Challenges:

### Level-1

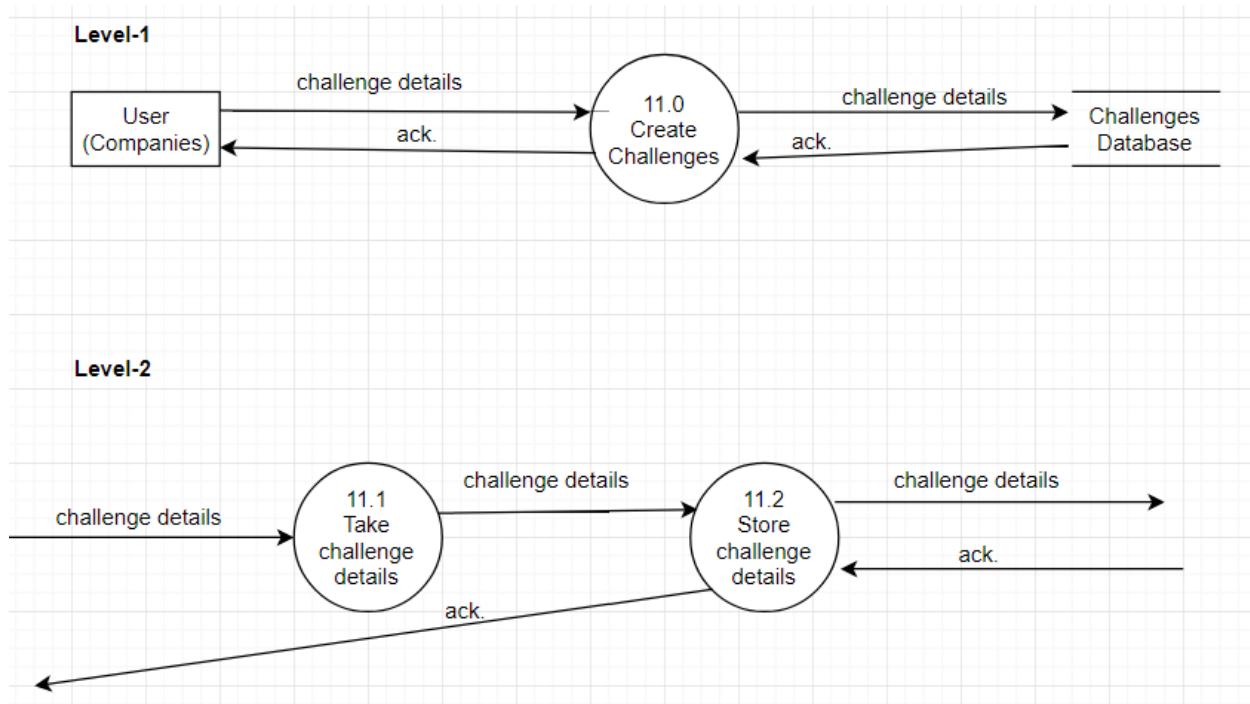


## View Upcoming Challenge:

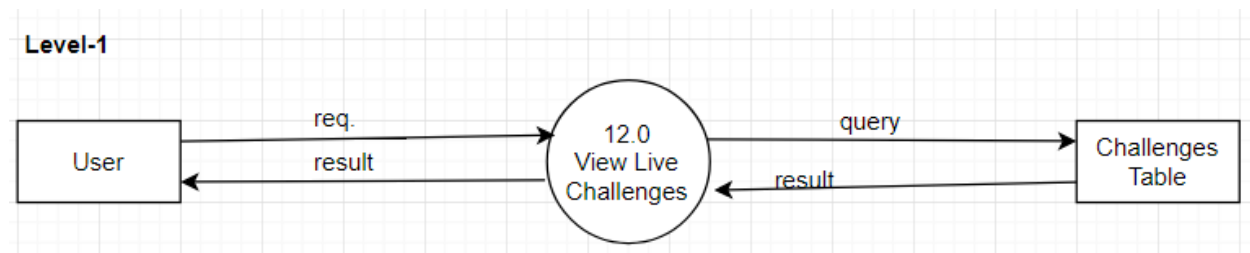
### Level-1



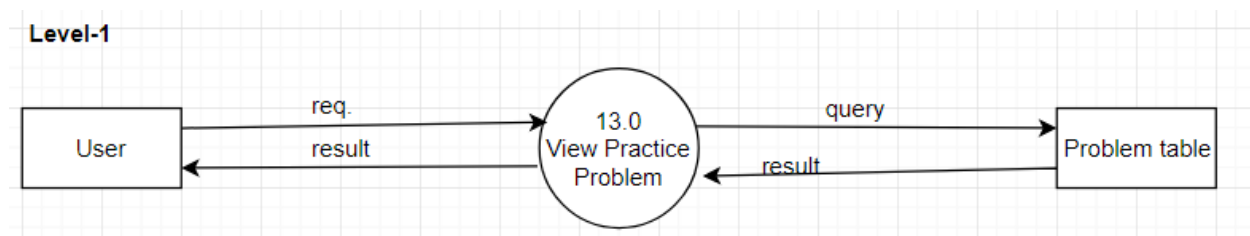
## Create Contest:



## View Live challenges:



## View Practice Problem:



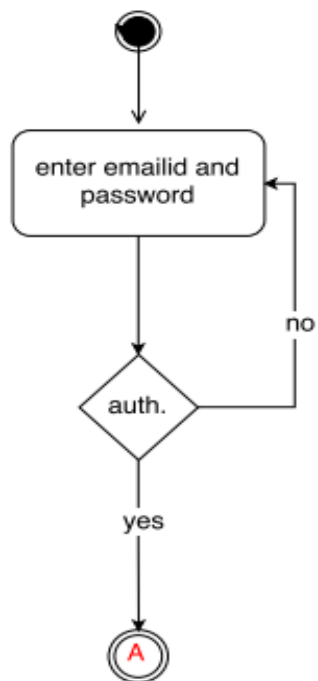
**(V)**

**Activity Diagram:-**

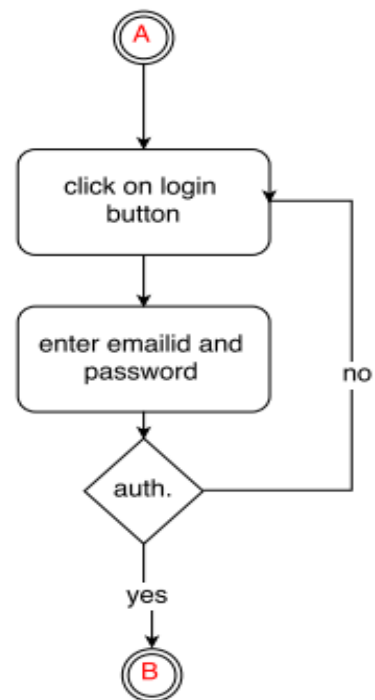
- **Sign up**
- **Login**
- **Create competition**
- **Practice**
- **Submission**
- **View profile**
- **Change profile**
- **Company details**
- **Administration**
- **Competition**
- **User activity**
- **Report generation**
- **Notification**
- **Company list**
- **User list**

## Sign up & login

sign up



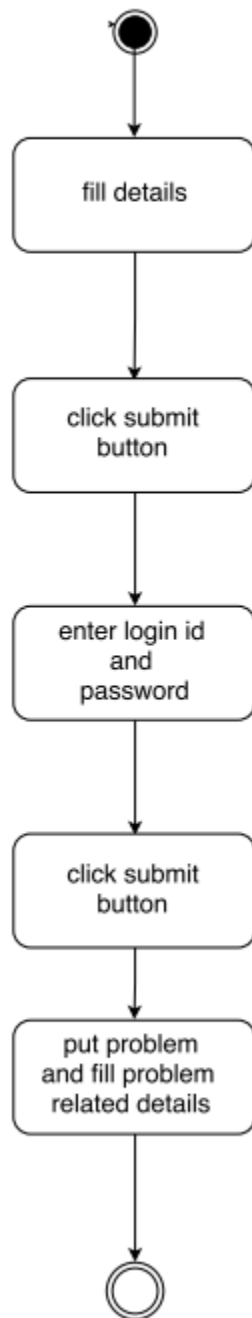
login



auth. = authentication

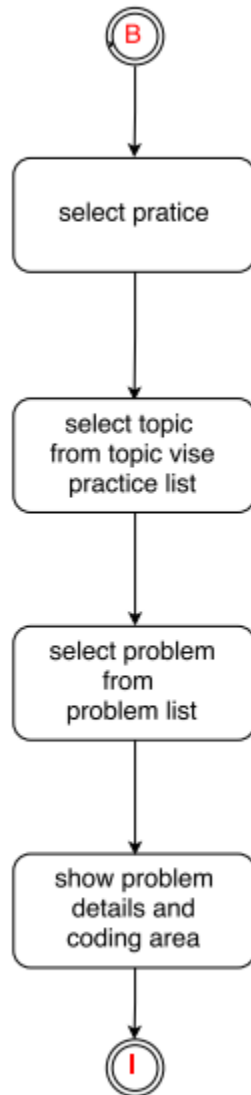
# Create Competition

create compition

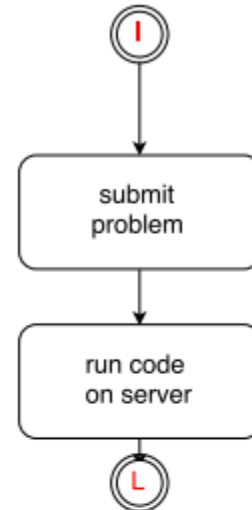


## Practice & submission

praticice

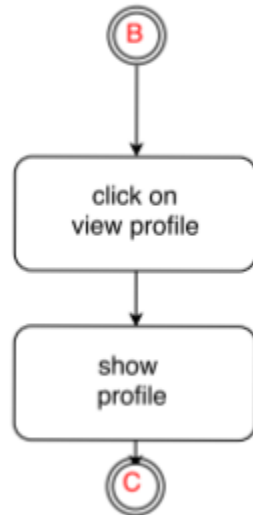


submition

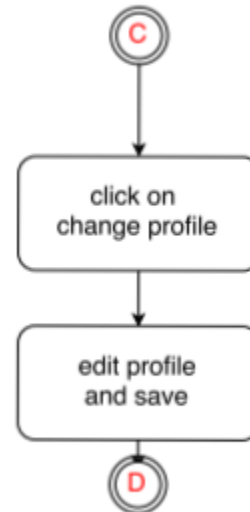


## view profile & change profile

view profile

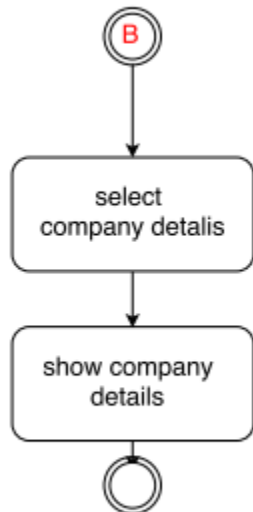


change profile

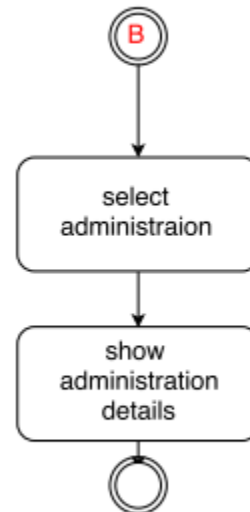


## company details & administration

company details



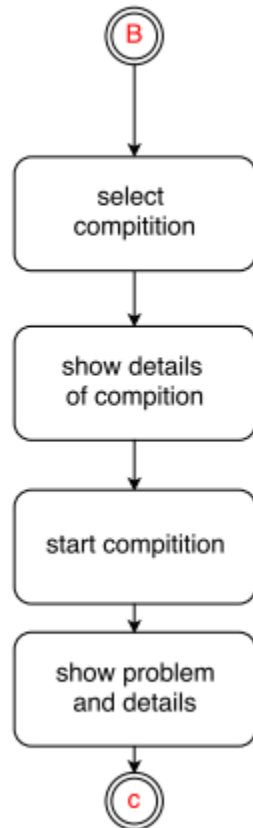
administration



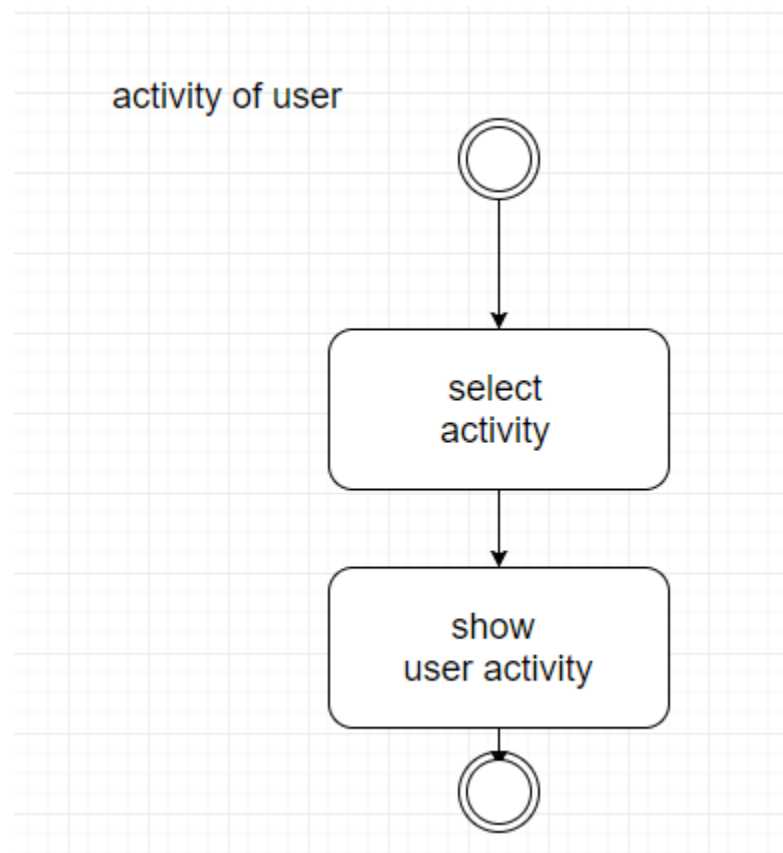


# competition

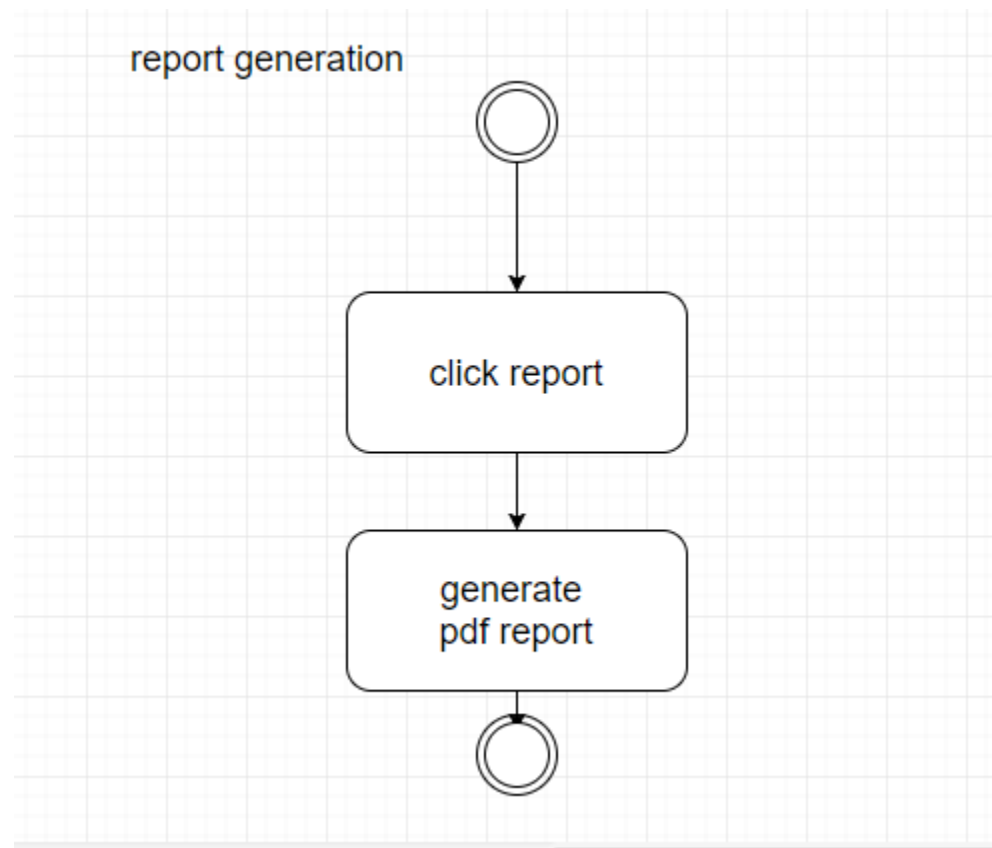
competition



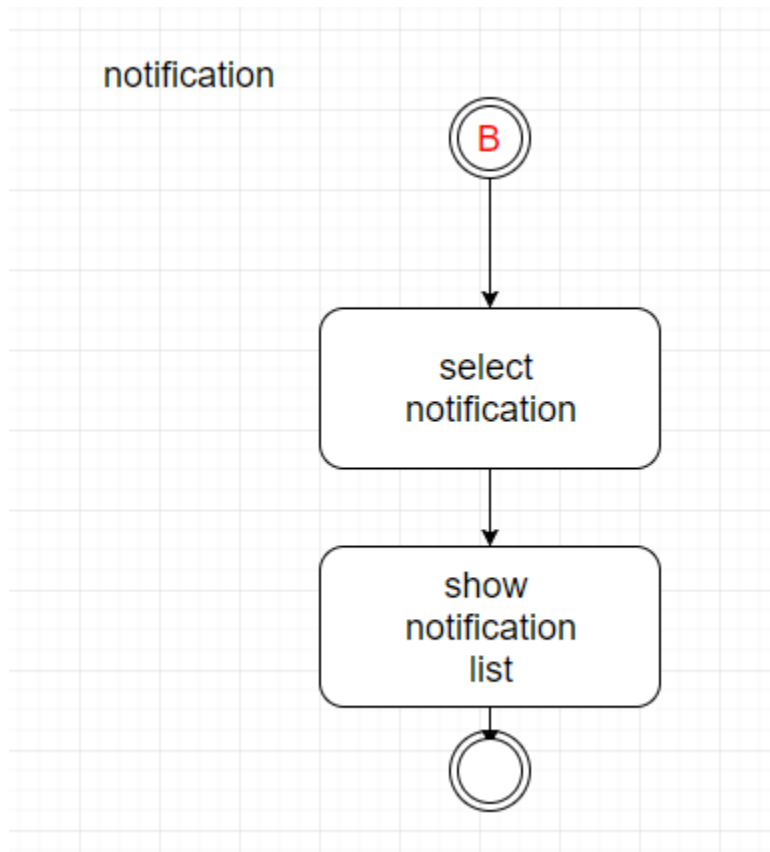
## User activity



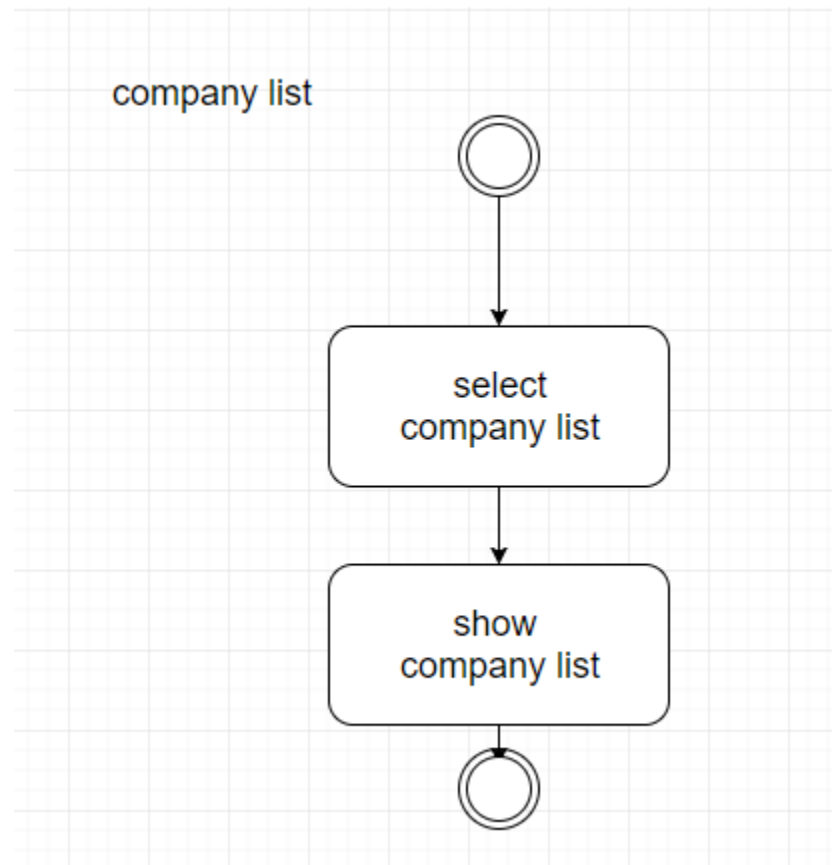
## Report generation



# Notification

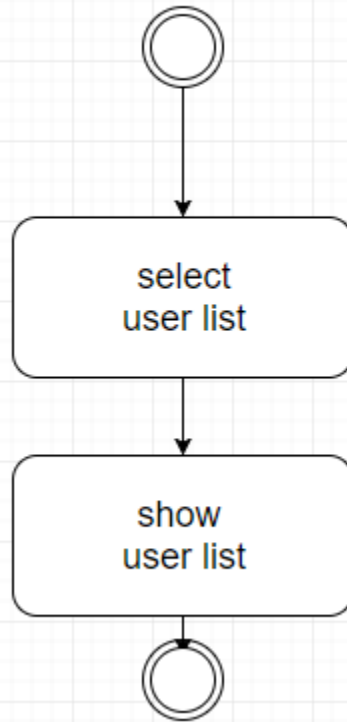


## Company list



## User list

user list



# **(VI)**

## **SOFTWARE DEVELOPMENT METHODOLOGY**

### **6.1 AGILE MODEL**

Agile SDLC model is a combination of iterative and incremental process models with focus on process adaptability and customer satisfaction by rapid delivery of working software product. Agile Methods break the product into small incremental builds. These builds are provided in iterations. Each iteration typically lasts from about one to three weeks.

Agile model believes that every project needs to be handled differently and the existing methods need to be tailored to best suit the project requirements. In Agile, the tasks are divided to time boxes (small time frames) to deliver specific features for a release.

Iterative approach is taken and working software build is delivered after each iteration. Each build is incremental in terms of features; the final build holds all the features required by the customer.

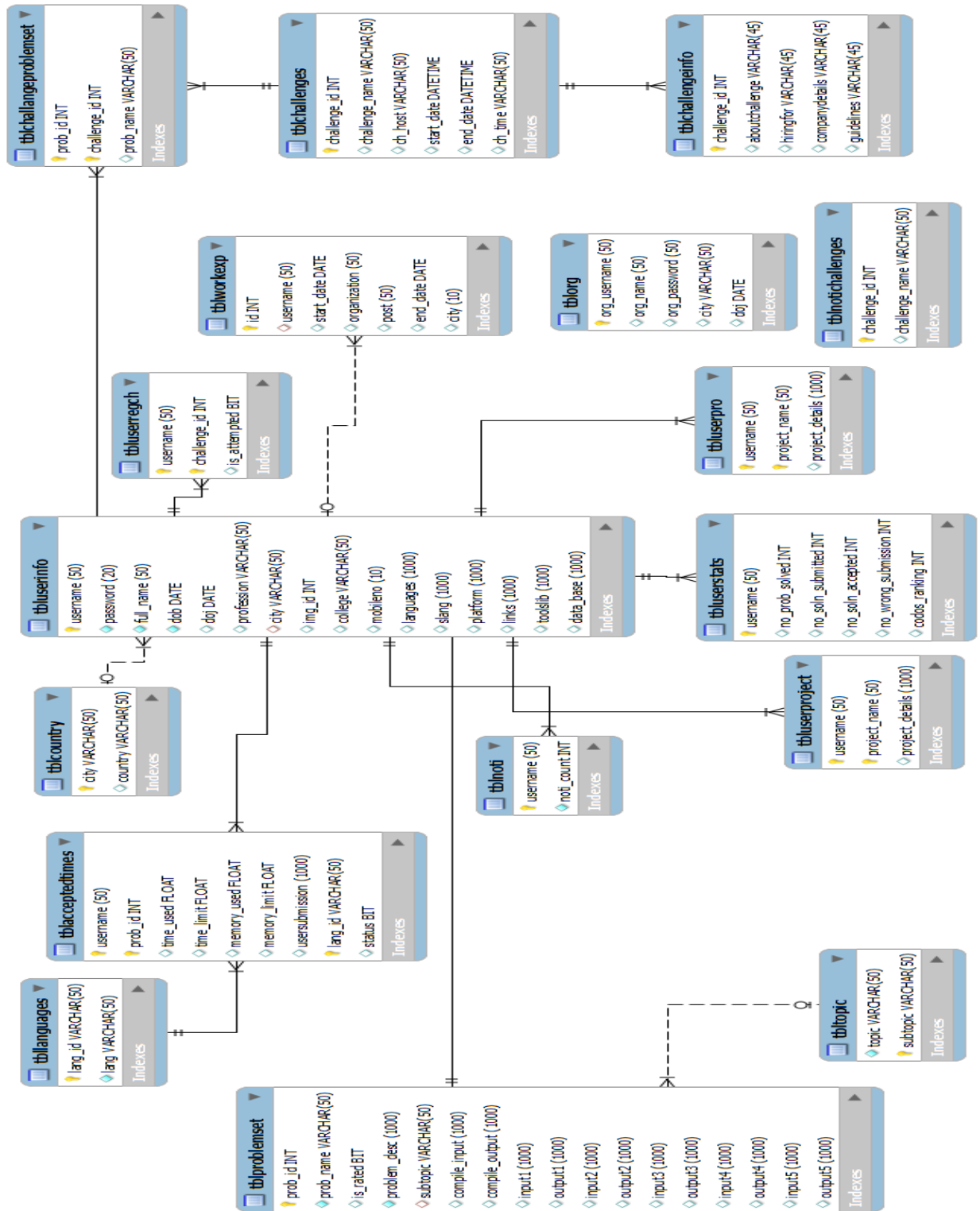
### **6.2 AGILE MODEL**

Reasons for choosing Incremental Model:

- Delivers early partial project.
- Easy to manage project.
- Enables concurrent development and delivery within an overall planned context.
- Easley apply change on project.

(VII)

## ENTITY RELATION SHIP DIAGRAM







## tblchallengeproblemset

Update		Script File: <span>dbo.tblchallengeproblemset.sql</span>			
	Name	Data Type	Allow Nulls	Default	
	prob_id	int	<input type="checkbox"/>		
	challenge_id	int	<input type="checkbox"/>		
	prob_name	varchar(50)	<input checked="" type="checkbox"/>		
			<input type="checkbox"/>		


## tblchallenges

Update		Script File: <span>dbo.tblchallenges.sql</span>			
	Name	Data Type	Allow Nulls	Default	
	challenge_id	int	<input type="checkbox"/>		
	challenge_name	varchar(50)	<input checked="" type="checkbox"/>		
	ch_host	varchar(50)	<input checked="" type="checkbox"/>		
	start_date	datetime	<input checked="" type="checkbox"/>		
	end_date	datetime	<input checked="" type="checkbox"/>		
	ch_time	varchar(50)	<input checked="" type="checkbox"/>		


## tblcountry

Update		Script File: <span>dbo.tblcountry.sql</span>			
	Name	Data Type	Allow Nulls	Default	
	city	varchar(50)	<input type="checkbox"/>		
	country	varchar(50)	<input checked="" type="checkbox"/>		


## Tbllanguages

Update		Script File: <code>dbo.tbllanguages.sql</code>		
	Name	Data Type	Allow Nulls	Default
	lang_id	varchar(50)	<input type="checkbox"/>	
	lang	varchar(50)	<input type="checkbox"/>	

## Tblnoti


Update		Script File: <code>dbo.tblnoti.sql</code>		
	Name	Data Type	Allow Nulls	Default
	username	nvarchar(50)	<input type="checkbox"/>	
	noti_count	int	<input type="checkbox"/>	((0))

## Tblnotichallenges



Update		Script File: <code>dbo.tblnotichallenges.sql</code>		
	Name	Data Type	Allow Nulls	Default
	challenge_id	int	<input type="checkbox"/>	
	challenge_name	varchar(50)	<input checked="" type="checkbox"/>	



## Tbluserinfo

Update   Script File: <code>dbo.tbluserinfo.sql</code>				
	Name	Data Type	Allow Nulls	Default
	username	nvarchar(50)	<input type="checkbox"/>	
	password	nvarchar(MAX)	<input type="checkbox"/>	
	full_name	nvarchar(50)	<input type="checkbox"/>	
	dob	date	<input type="checkbox"/>	
	doj	date	<input checked="" type="checkbox"/>	
	profession	varchar(50)	<input checked="" type="checkbox"/>	
	city	varchar(50)	<input checked="" type="checkbox"/>	
	img_id	int	<input checked="" type="checkbox"/>	
	college	varchar(MAX)	<input checked="" type="checkbox"/>	
	mobilenno	nvarchar(10)	<input checked="" type="checkbox"/>	
	languages	nvarchar(MAX)	<input checked="" type="checkbox"/>	
	slang	nvarchar(MAX)	<input checked="" type="checkbox"/>	
	platform	nvarchar(MAX)	<input checked="" type="checkbox"/>	
	links	nvarchar(MAX)	<input checked="" type="checkbox"/>	
	toolslib	nvarchar(MAX)	<input checked="" type="checkbox"/>	
	data_base	nvarchar(MAX)	<input checked="" type="checkbox"/>	

## Tblproblemset

 Update   Script File: <input type="text" value="dbo.tblproblemset.sql*"/>				
	Name	Data Type	Allow Nulls	Default
	prob_id	int	<input type="checkbox"/>	
	prob_name	varchar(50)	<input type="checkbox"/>	
	is_rated	bit	<input checked="" type="checkbox"/>	
	problem_desc	nvarchar(MAX)	<input type="checkbox"/>	
	subtopic	varchar(50)	<input checked="" type="checkbox"/>	
	compile_input	nvarchar(MAX)	<input type="checkbox"/>	
	compile_output	nvarchar(MAX)	<input type="checkbox"/>	
	input1	nvarchar(MAX)	<input type="checkbox"/>	
	output1	nvarchar(MAX)	<input type="checkbox"/>	
	input2	nvarchar(MAX)	<input checked="" type="checkbox"/>	
	output2	nvarchar(MAX)	<input checked="" type="checkbox"/>	
	input3	nvarchar(MAX)	<input checked="" type="checkbox"/>	
	output3	nvarchar(MAX)	<input checked="" type="checkbox"/>	
	input4	nvarchar(MAX)	<input checked="" type="checkbox"/>	
	output4	nvarchar(MAX)	<input checked="" type="checkbox"/>	
	input5	nvarchar(MAX)	<input checked="" type="checkbox"/>	
	output5	nvarchar(MAX)	<input checked="" type="checkbox"/>	


## Tbluserproject

Update   Script File: <span>dbo.tbluserproject.sql</span>				
	Name	Data Type	Allow Nulls	Default
	username	nvarchar(50)	<input type="checkbox"/>	
	project_name	nvarchar(50)	<input type="checkbox"/>	
	project_details	nvarchar(MAX)	<input checked="" type="checkbox"/>	


## Tbluserregch

Update   Script File: <span>dbo.tbluserregch.sql</span>				
	Name	Data Type	Allow Nulls	Default
	username	nvarchar(50)	<input type="checkbox"/>	
	challenge_id	int	<input type="checkbox"/>	
	is_attempted	bit	<input checked="" type="checkbox"/>	

## Tbluserstats

Update   Script File: <code>dbo.tbluserstats.sql</code>				
	Name	Data Type	Allow Nulls	Default
	 username	nvarchar(50)	<input type="checkbox"/>	
	no_prob_solved	int	<input checked="" type="checkbox"/>	
	no_soln_submitted	int	<input checked="" type="checkbox"/>	
	no_soln_accepted	int	<input checked="" type="checkbox"/>	
	no_wrong_submission	int	<input checked="" type="checkbox"/>	
	codos_ranking	int	<input checked="" type="checkbox"/>	

## Tblworkexp

Update   Script File: <code>dbo.tblworkexp.sql</code>				
	Name	Data Type	Allow Nulls	Default
	 id	int	<input type="checkbox"/>	
	username	nvarchar(50)	<input checked="" type="checkbox"/>	
	start_date	date	<input checked="" type="checkbox"/>	
	organization	nvarchar(50)	<input checked="" type="checkbox"/>	
	post	nvarchar(50)	<input checked="" type="checkbox"/>	
	end_date	date	<input checked="" type="checkbox"/>	
	city	nchar(10)	<input checked="" type="checkbox"/>	



## **Triggers:**

### **1. Add notification when challenge is created**

GO

```
CREATE TRIGGER [dbo].[Trigger_tblchallenges]
```

```
ON [dbo].[tblchallenges]
```

```
FOR INSERT
```

```
AS
```

```
BEGIN
```

```
    declare @chid varchar(50);
```

```
    declare @chname varchar(50);
```

```
    select @chid = i.challenge_id from inserted i;
```

```
    select @chname = i.challenge_name from inserted i;
```

```
        insert into tblnotichallenges (challenge_id,challenge_name)
values(@chid,@chname);
```

```
        update tblnoti set noti_count=noti_count+1;
```

```
END
```

### **2.Setting Notification to 0 when user is created.**

GO

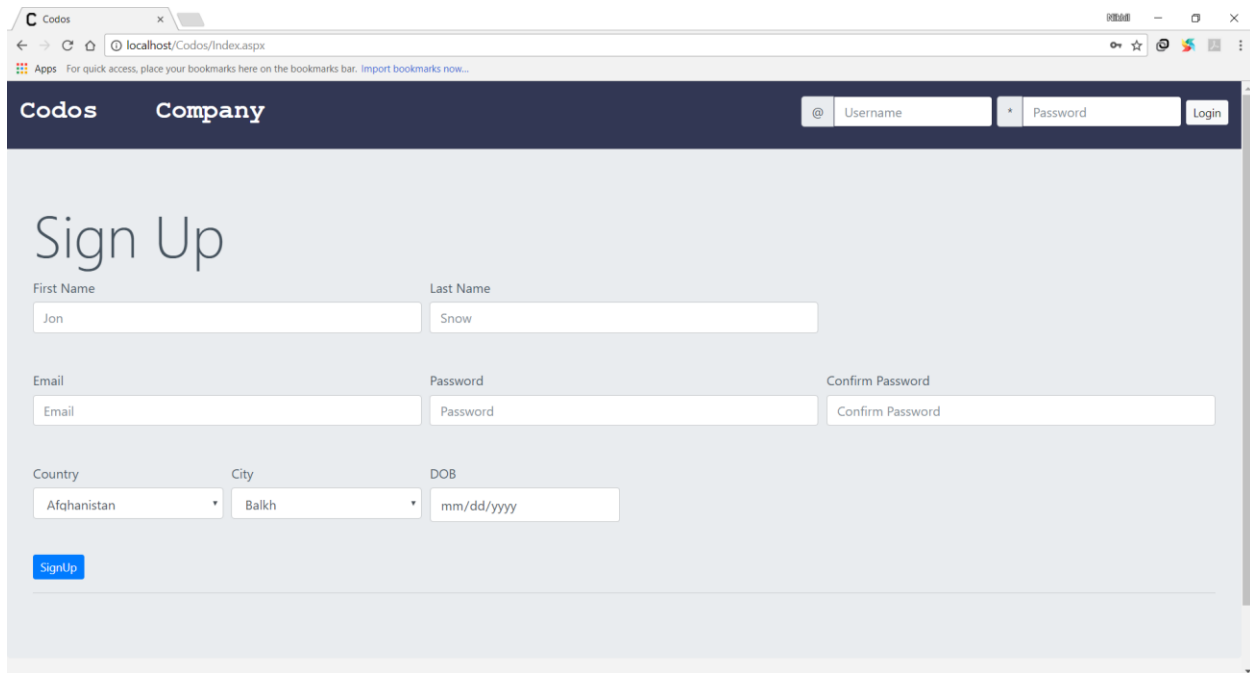
```
CREATE TRIGGER [dbo].[Trigger_tbluserinfo]
ON [dbo].[tbluserinfo]
FOR INSERT
AS
BEGIN
    declare @uname nvarchar(50);
    select @uname = i.username from inserted i;
    insert into tblnoti (username, noti_count) values (@uname, 0);

    SET NoCount ON
END
```

# (IX)

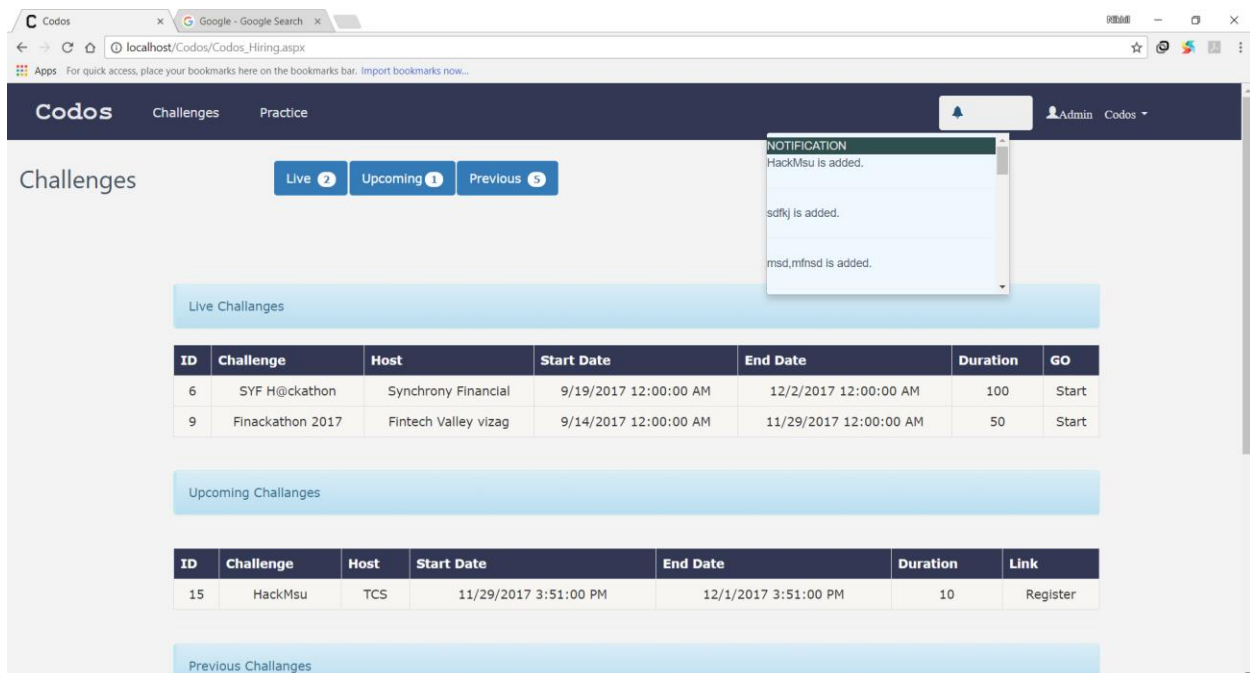
## SCREENSHOTS

### 1. User Login



The screenshot shows the 'Sign Up' page of the Codos application. The page has a dark blue header with the 'Codos Company' logo and a login section with fields for 'Username' and 'Password' and a 'Login' button. The main content area is light gray and contains the 'Sign Up' heading. Below the heading are several input fields: 'First Name' (with 'Jon' entered), 'Last Name' (with 'Snow' entered), 'Email', 'Password', 'Confirm Password', 'Country' (a dropdown menu showing 'Afghanistan'), 'City' (a dropdown menu showing 'Balkh'), and 'DOB' (with a placeholder 'mm/dd/yyyy'). A blue 'SignUp' button is at the bottom left of the form.

### 2. Challenges



The screenshot shows the 'Challenges' page of the Codos application. The page has a dark blue header with the 'Codos' logo, navigation links for 'Challenges' and 'Practice', and a user profile section with 'Admin' and 'Codos' links. The main content area is light gray and contains the 'Challenges' heading. Below the heading are three tabs: 'Live' (with a count of 2), 'Upcoming' (with a count of 1), and 'Previous' (with a count of 5). A notification box is open, showing three messages: 'HackMsu is added.', 'sdfkj is added.', and 'msd,mfnsd is added.'. Below the notification box are three sections: 'Live Challenges', 'Upcoming Challenges', and 'Previous Challenges'. The 'Live Challenges' section contains a table with 7 columns: ID, Challenge, Host, Start Date, End Date, Duration, and GO. The 'Upcoming Challenges' section contains a table with 7 columns: ID, Challenge, Host, Start Date, End Date, Duration, and Link. The 'Previous Challenges' section is currently empty.

ID	Challenge	Host	Start Date	End Date	Duration	GO
6	SYF H@ckathon	Synchrony Financial	9/19/2017 12:00:00 AM	12/2/2017 12:00:00 AM	100	Start
9	Finackathon 2017	Fintech Valley vizag	9/14/2017 12:00:00 AM	11/29/2017 12:00:00 AM	50	Start

ID	Challenge	Host	Start Date	End Date	Duration	Link
15	HackMsu	TCS	11/29/2017 3:51:00 PM	12/1/2017 3:51:00 PM	10	Register

### 3. Challenges

The screenshot shows a web browser at localhost/Codos/Codos\_Hiring.aspx. The page has a header with the Codos logo and navigation links. The main content area is titled 'Challenges' and contains two tables. The first table, 'Upcoming Challenges', has one row for challenge ID 15, 'HackMsu', hosted by TCS, starting on 11/29/2017 and ending on 12/1/2017, with a duration of 10 minutes and a 'Register' link. The second table, 'Previous Challenges', lists five past challenges with details on ID, Challenge Name, Host, Start/End Dates, Duration, and an 'About' link. A footer shows the page number 123 and a copyright notice for Codos Inc.

ID	Challenge	Host	Start Date	End Date	Duration	Link
15	HackMsu	TCS	11/29/2017 3:51:00 PM	12/1/2017 3:51:00 PM	10	Register

ID	Challenge	Host	Start Date	End Date	Duration	Info
1	TCS CODEVITA	TCS	10/10/2017 9:06:00 PM	10/18/2017 9:06:00 PM	10	About
2	test	Codos	10/11/2017 4:28:00 AM	10/11/2017 4:28:00 AM	10	About
3	Predict The Happiness.	HP	10/6/2017 12:00:00 AM	10/7/2017 12:00:00 AM	24	About
4	Baroda Finathon Challenge	Bank Of Baroda	11/2/2017 12:00:00 AM	11/15/2017 12:00:00 AM	100	About
5	Pitney Bowes SMB Challenge	Pitney Bowes	9/12/2017 12:00:00 AM	10/9/2017 12:00:00 AM	100	About

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Displaying Page 1 of 1

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### 4. About Challenge

The screenshot shows the 'About Challenge' page for challenge ID 9. The page has a dark blue header with the Codos logo and navigation links. A yellow 'Register' button is prominent. The content is organized into sections: 'About Challenge' with a description of the Fintech Valley initiative, 'Hiring For' listing 'Java Developers', 'The Company' describing the Fintech Valley Vizag initiative, and 'Guidelines' stating there is no registration fee and providing rules for participation.

**Codos** Challenges Practice

Register

**About Challenge**

To capture the momentum of Fintech movement in India, AP Fintech Valley was conceptualized with an aim to bring together public and private player. The Fintech Valley has launched 'use case repository' across banks, NBFCs, insurance companies, and capital market companies to accelerate innovation.

**Hiring For**

Java Developers.

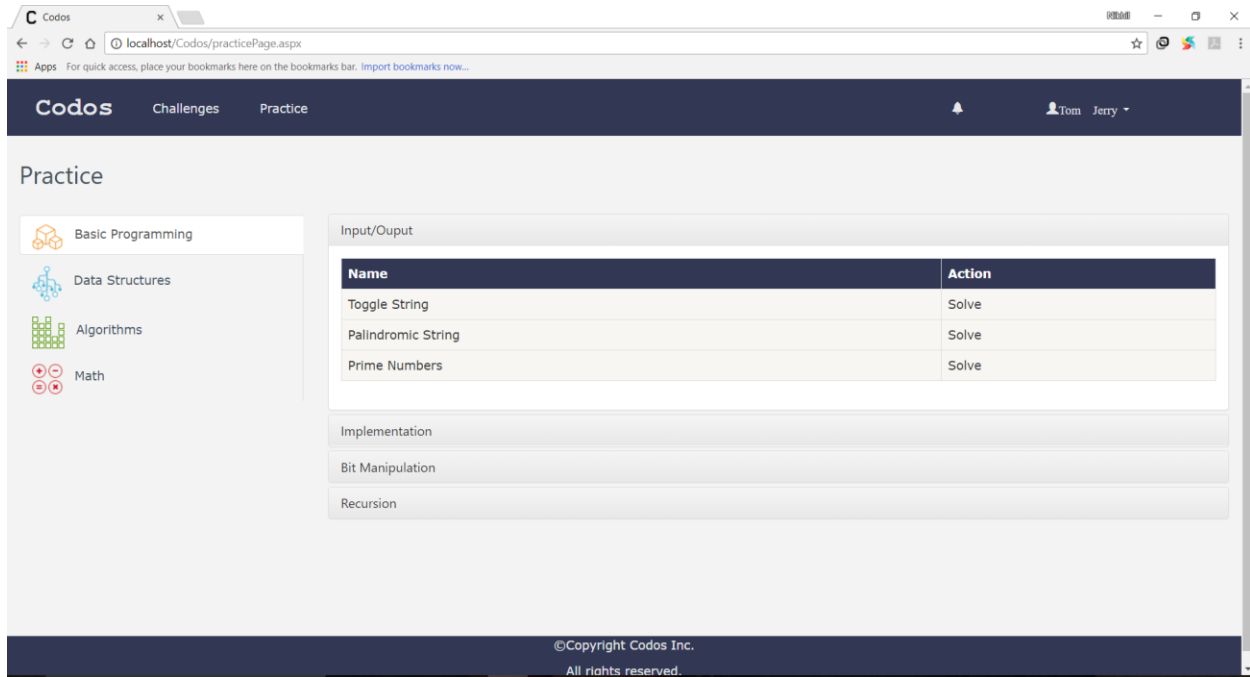
**The Company**

Fintech Valley Vizag is an initiative of the Government of Andhra Pradesh to promote business infrastructure in the state, and attract investors and entrepreneurs.

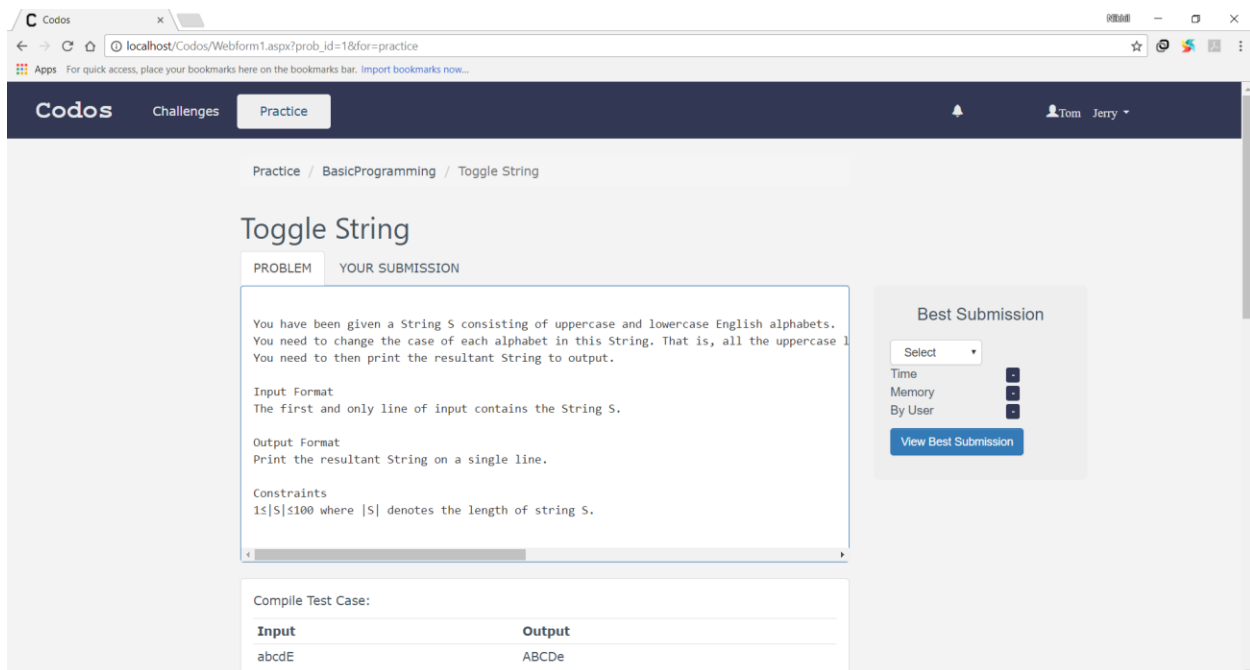
**Guidelines**

There is NO Registration fee involved.  
It is an open innovation, participants are free to code in any language, use any platform, technology stack and library.  
Team size can vary between 2-5 members, with mandatory one team leader who will drive the conversation and represent the group.

## 5. Practice



## 6. Code Editor and Problem Explorer



## 7. Code Editor

The screenshot shows the Codos web interface. At the top, there's a header with the Codos logo and a navigation bar. Below the header, there's a table with constraints: Time Limit (2.0 sec(s) for each input file), Memory Limit (256 MB), Source Limit (1024 KB), and Allowed Languages (C, C++, C#, JAVA, JavaScript, PHP, Python, Perl, Haskell, Clojure, Ruby). The main area is titled "Code Editor" and features a "Choose language" dropdown set to "C++". The code editor contains the following C++ code:

```
1 #include <stdio.h>
2
3 int main()
4 {
5     int c;
6
7     while ( (c=getchar()) != EOF ){
8         if (c >= 65 & c <= 90)
9             c += 32;
10        else if (c >= 97 & c <= 122)
11            c -= 32;
12
13        putchar(c);
14    }
15
16    return 0;
17 }
```

## 8. Compile

The screenshot shows the Codos web interface after clicking the "Compile and test" button. The code editor shows the same C++ code as in the previous screenshot. Below the code editor, there are two buttons: "Compile and test" and "Submit". The "Compile and test" button is highlighted. Below the buttons, there's a section titled "Compile Output" with a green background. The output text is:

```
Successfully Compiled.
Compile Test case passed.
Your Output :
ABCDE
```

## 9. Submit

The screenshot shows the Codos web interface. At the top, there's a header with the Codos logo and navigation links. Below the header, there's a large text area for code input. To the right of the code area, there are two buttons: "Compile and test" and "Submit". Below the code area, there's a section titled "Submit Output" which contains a table with the following data:

Input	Result	Time Used	Memory
Input #1	Passed	0.100620	64
Input #2	Passed	0.100590	64
Input #3	Passed	0.100574	64
Input #4	Passed	0.100599	64

At the bottom of the page, there's a footer with the text: "©Copyright Codos Inc. All rights reserved."

## 10. Best Submission

The screenshot shows the Codos web interface. At the top, there's a header with the Codos logo and navigation links. Below the header, there's a large text area for code input. To the right of the code area, there's a section titled "Best Submission" which contains a table with the following data:

Language	Time	Memory	By User
C++	0.1006285	64	aaron@gmail.com

Below the table, there's a button labeled "View Best Submission".

At the bottom of the page, there's a footer with the text: "©Copyright Codos Inc. All rights reserved."

## 11. Profile

The screenshot shows the Codos user profile page for Tom Jerry. The page has a dark blue header with the Codos logo, navigation links for Challenges and Practice, and a user profile icon. The main content area is divided into two columns. The left column features a large illustration of a head with gears and a network of nodes, followed by the user's name 'Tom Jerry' and contact information: 'The Maharaja Sayajirao University of Baroda', 'Student', 'Vadodara', 'tom@gmail.com', and '9974598745'. The right column contains two sections: 'PROJECT' and 'WORK EXPERIENCE'. The 'PROJECT' section has an 'Edit Profile' button and a table with one project entry. The 'WORK EXPERIENCE' section has a table with one work experience entry.

	project name	project details
Edit Delete	.Net Technologies	Codos

	start date	organization	post	end date	city
Edit Delete	11/13/2017 12:00:00 AM	MSU		11/21/2017 12:00:00 AM	Vadodara

## 12. Activity

The screenshot shows the Codos activity page for Tom Jerry. The page has a dark blue header with the Codos logo, navigation links for Challenges and Practice, and a user profile icon. The main content area is titled 'Activity' and contains two tables. The first table, 'Codos Profile', shows the user's performance metrics: 1 problem solved, 1 problem submitted, 1 solution accepted, and 0 wrong answers. The second table, 'submission', shows the details of the solved problem: 'Toggle String' in C++11, solved in 0.10059575 seconds with 64 KiB of memory. A 'Download Report' button is located below the submission table. The footer of the page contains the copyright notice: '©Copyright Codos Inc. All rights reserved.'

Problem Solved	Problem Submitted	Solution Accepted	Wrong Answer
1	1	1	0

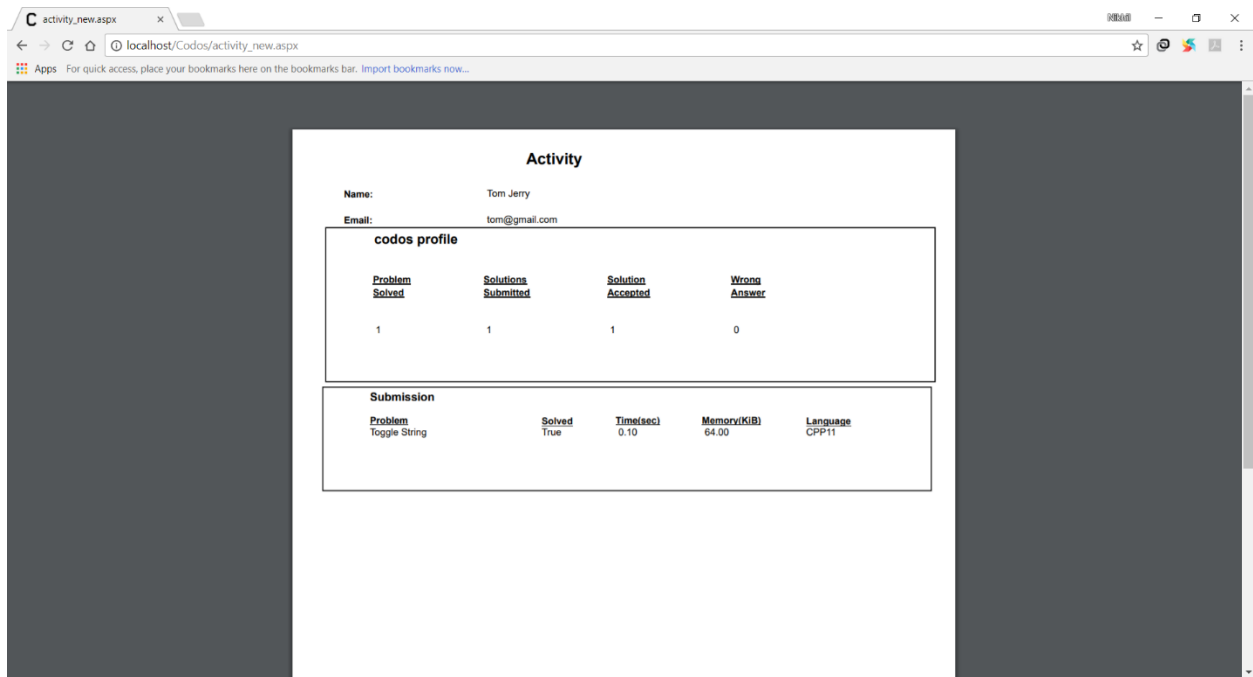
Problem	Solved	Times(sec)	Memory(kiB)	Languages
Toggle String	<input checked="" type="checkbox"/>	0.10059575	64	C++11

Download Report

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## 13. Crystal Report



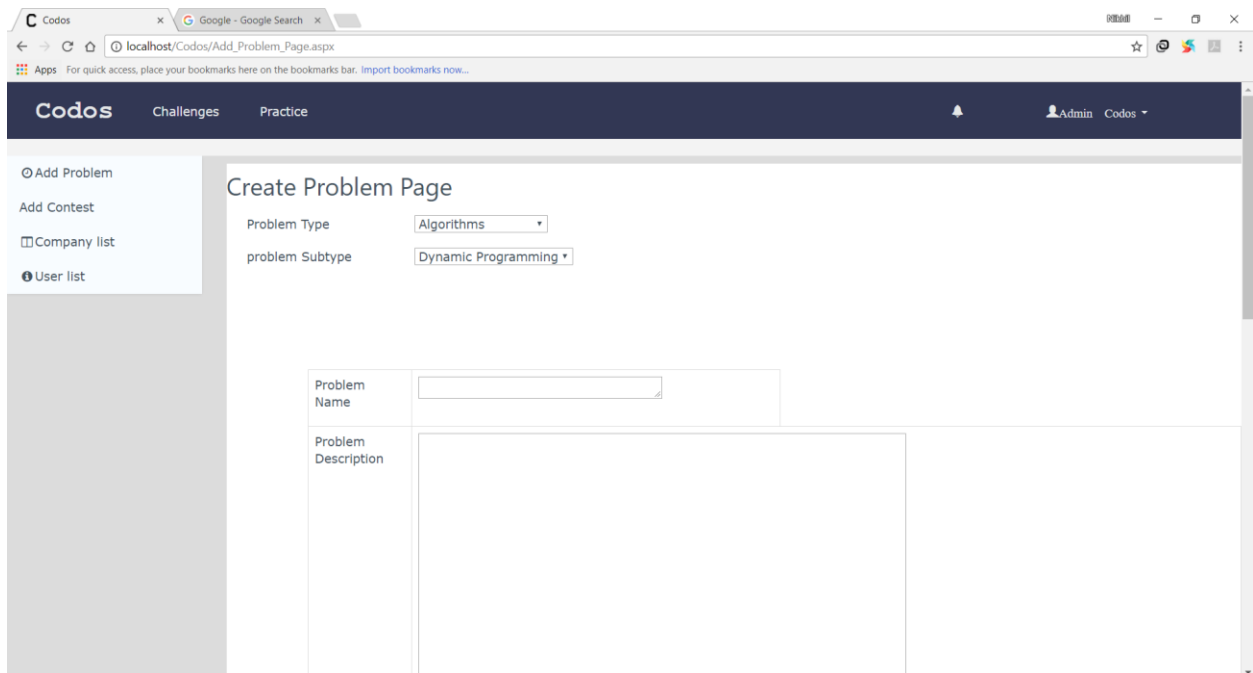
The screenshot shows a web browser window with the address bar displaying 'localhost/Codos/activity\_new.aspx'. The main content area displays a Crystal Report titled 'Activity' for the user 'Tom Jerry' (Email: tom@gmail.com). The report is divided into two main sections: 'codos profile' and 'Submission'.

codos profile			
Problem Solved	Solutions Submitted	Solution Accepted	Wrong Answer
1	1	1	0

Submission				
Problem	Solved	Time(sec)	Memory(KB)	Language
Toggle String	True	0.10	64.00	CPP11

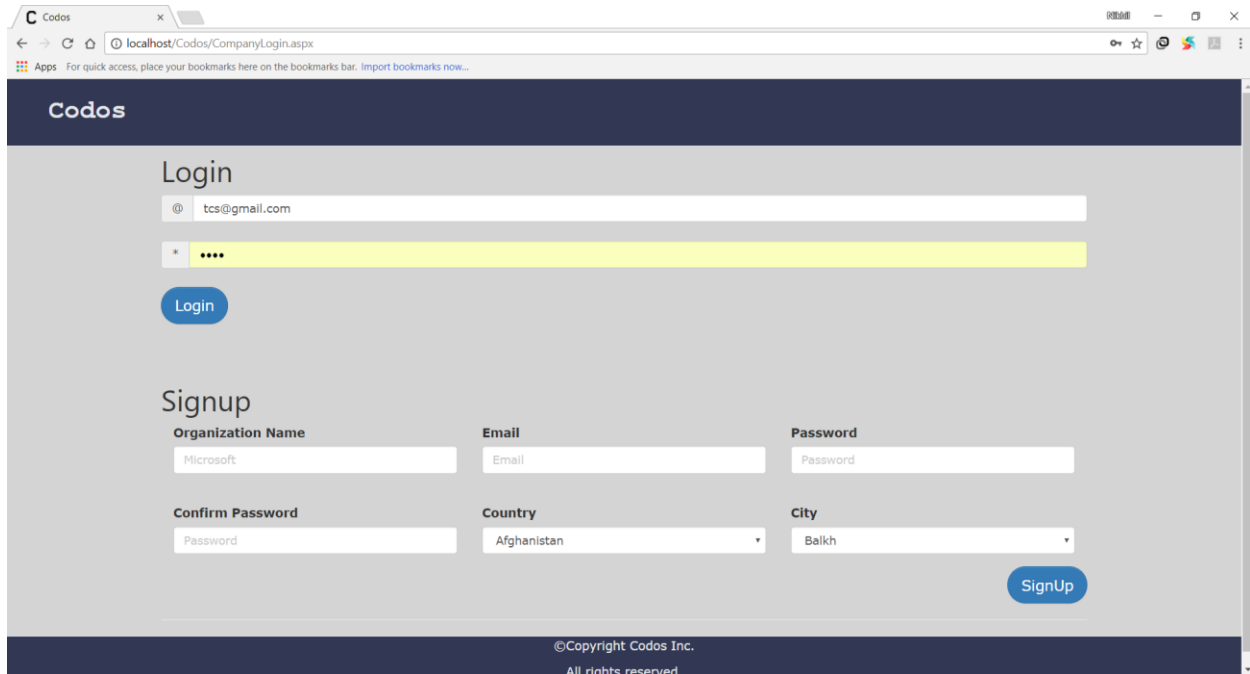
## 14. Admin Functionalities



The screenshot shows the 'Create Problem Page' admin interface. The left sidebar contains navigation links: 'Add Problem', 'Add Contest', 'Company list', and 'User list'. The main content area has the following form fields:

- Problem Type:** A dropdown menu currently showing 'Algorithms'.
- problem Subtype:** A dropdown menu currently showing 'Dynamic Programming'.
- Problem Name:** A text input field.
- Problem Description:** A large text area for the problem description.

## 15. Company Login



The screenshot shows a web browser window with the URL `localhost/Codos/CompanyLogin.aspx`. The page has a dark blue header with the "Codos" logo. Below the header, there are two main sections: "Login" and "Signup".

**Login Section:**

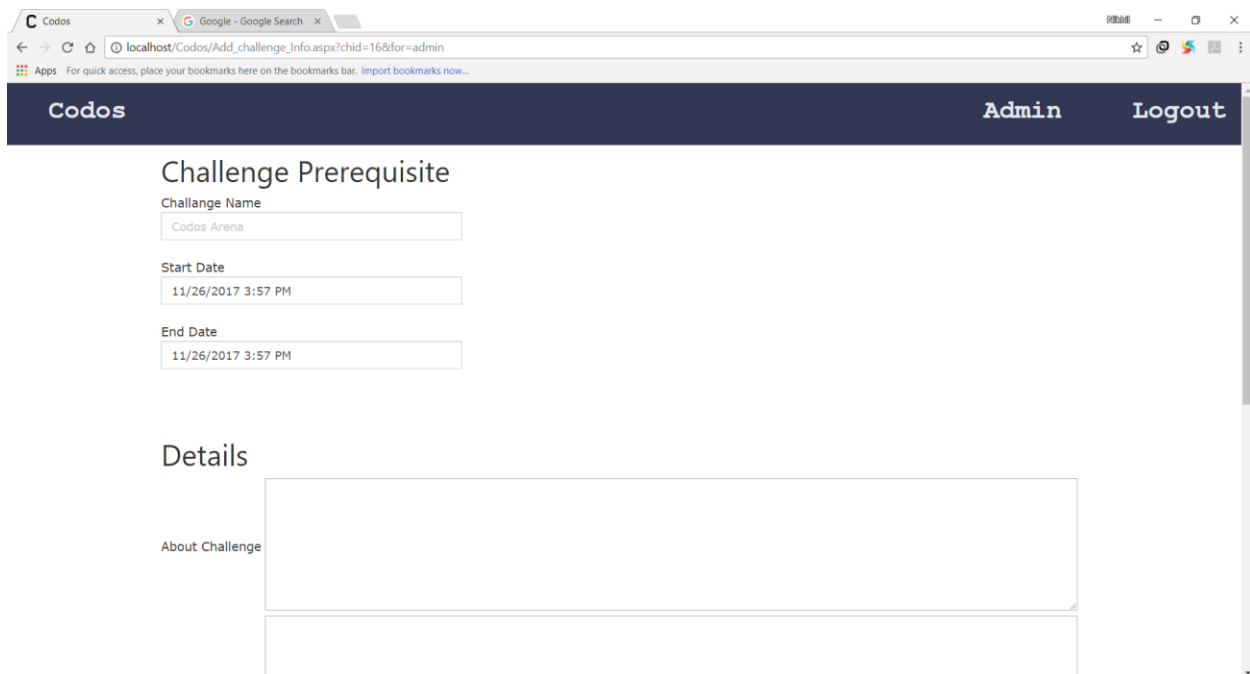
- Email input field: `tcs@gmail.com`
- Password input field: masked with dots
- Login button: blue with white text

**Signup Section:**

- Organization Name: `Microsoft`
- Email: `Email`
- Password: `Password`
- Confirm Password: `Password`
- Country: `Afghanistan` (dropdown menu)
- City: `Balkh` (dropdown menu)
- Signup button: blue with white text

At the bottom of the page, there is a footer with the text: "©Copyright Codos Inc. All rights reserved."

## 16. Add Challenge



The screenshot shows a web browser window with the URL `localhost/Codos/Add_challenge_Info.aspx?chid=16&for=admin`. The page has a dark blue header with the "Codos" logo and two links: "Admin" and "Logout".

**Challenge Prerequisite Section:**

- Challenge Name: `Codos Arena`
- Start Date: `11/26/2017 3:57 PM`
- End Date: `11/26/2017 3:57 PM`

**Details Section:**

- About Challenge:

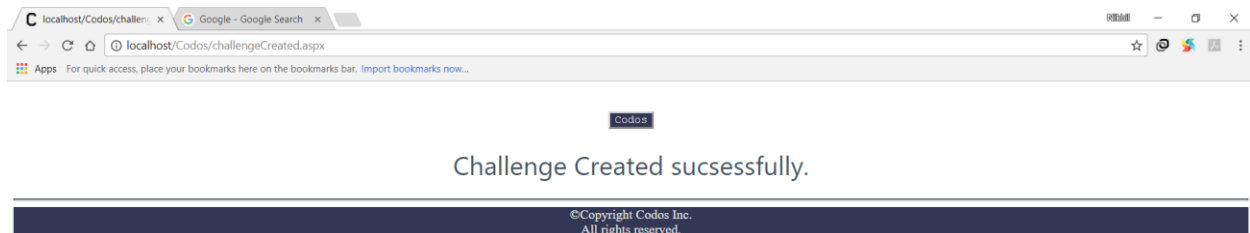
## 17. Add Problems To Challenge

The screenshot shows a web browser window with the URL `localhost/Codos/Add_challenge_company.aspx?chid=15&for=company`. The page has a dark blue header with the 'Codos' logo, 'TCS', and a 'Logout' link. Below the header, the page title is 'Create Challenge'. The main section is titled 'Add Problems'. It includes a form with the following elements:

- A label 'Enter Total Problem Number : 2' followed by a text input field containing the number '2'.
- A section titled 'Problem 1' containing a table with two rows:

Problem Name	Problem Name Require
Find The Turtle	
Problem Description	Turtle is moving fast. WAP to catch it.

## 18. Successful Challenge Publish



(X)

## **FUTURE ENHANCEMENTS**

1. Recruiter Solution: Video Conferencing between recruiter and aspirers.
2. Statistical Representations of user performance and their skillset.
3. Chat bot for FAQ's and manipulative queries related to computer science.
4. Resume Upload.

(XI)

## **BIBLIOGRAPHY**

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<https://www.hackerrank.com/>

<http://www.c-sharpcorner.com/>