Project Report

On

ONLINE APTITUDE TEST

Submitted by

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CERTIFICATE

This is to certify that the project work titled "**ONLINE APTITUDE TEST"** is a bonafied project work submitted by Sk.Yasmin , Sk.Heena and S.Lakshmi Bhavitha in the department of COMPUTER SCIENCE AND ENGINEERING in partial fulfillment of requirements for the award of degree of Bachelor of Technology in Computer Science and Engineering for the year 2021-2022 carried out the work under the supervision

GUIDE
A.MAHENDRA

HEAD OF THE DEPARTMENT
P.HARINADHA

ACKNOWLEDGEMENT

The satisfaction that accompanies the successful completion of any task would be Incomplete without the mention of the people who made it possible and whose constant and encouragement crown all the efforts success.

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I would like to convey thanks to our guide at college Mr.A.MAHENDRA for his guidance, encouragement, co-operation and kindness during the entire duration of the course and academics.

My sincere thanks to all the members who helped me directly and indirectly in the completion of project work. I express my profound gratitude to all our friends and family members for their encouragement.

INDEX

Abstract

The Project: "**ONLINE APTITUDE TEST"** is a collection of number of different type of Aptitude like time and distance, number series, areas, odd man out etc., A user can access /play all of the quiz and can attempt any of them. There will be limited number of questions and for each correct answer user will get a credit score. User can see answers as well as they get explaination to it.There are many quiz applications available currently on Internet.But there are few which provide better understanding between user and the application like, providing proper answers as well as explaination to it. To develop a user friendly quiz application which will contain: Number of quiz, Answers to every question and to improve the knowledge level of users. To develop a application which will contain solution to the above questions. By this application the user will come to know about his her level and can learn additional knowledge. Also by this application a user can expand his/her knowledge. Also by this applicatiom we can go through different links for each specific topic for further practice.

Introduction

Online examinations contains providers to focus on creating effective assignment questions. It the paper we present techniques that pertinent to the elements of assessment process: answers submition ,computerized grading.

- This quiz website provide a grate platform for practice and solving problems ,which is having a great user interface.
- The proposed work in the field are available on internet in huge amount like; many web -sites are available for playing quizzes online and solving questions.
- This website provide a large varieties of questions.
- This website provides question,answer and explanation and further links for more practice.
- Also, this websites provides formulas and instructions to get an idea to the user before attempting the test.

”**Our aim is to develop a application for the user in which a user can attempt any number of times to attempt the quiz related to his/ her choice”.**Firstly ,we have to make Interfaces for Home page ,Instructions page,Topics page,Formulas page,Questions attempting forum ,Result page , Explanation page ,for further practice links page.By this user can gain knowledge, can get an explanation related to problems and spread his /her knowledge among the world.

Purpose

This web application provides facility to play online quiz and practice Aptitude. It provides a good platform, where a student not only judges there knowledge / skill but also they can improve knowledge / skill at the same time. This are the reasons which encouraged us to take a topic like this and develop our own online quiz application .

Scope

The Scope of this project is very board in terms of gaining knowledge and sharing Knowledge.

The main goal of application is to enable user to practice for aptitude test conducted for recruitment and competitive exams.

Few points are :-

- Can be used anywhere anytime as it is a web based application.
- This application will be used in educational institutions as well as corporate world.

Advantages:

- Allow the users to take test and view their result online.
- Provides a platform user can choose from a variety of aptitude tests.
- User are allowed to take each test several times.
- User can also view explonatory answers.
- Improve the knowledge of the user without any fees

Disadvantages:

- It does not improve the ability of expression.
- It is not used much in the measurement of advanced behaviors.

Requirement Specification

Hardware Configuration:

Ram	2 GB
Processer speed	2 GHz
Processor	Intel dual core (32 bit)

Design and Implementation Constraints

- **Language of choice :** HTML , CSS Javascript
- **Web Browser :** Fire fox, Google Chrome or any compatible browser
- **Operating system :** Ubuntu , windows or any equivalent os.

Assumptions And Dependencies:

We assume that the users of our website should have a minimal knowledge of computer system and should have an availability of internet. We are dependent on the sources form where we have gathered that data and the data are authenticated.

HTML

HTML stands for **HyperText Markup Language.** It is the standard markup language for Web pages .Simply,it is a seriesof tags the unify the formatting of a jumbled web resource , such as text, animation, sounds , tables , links, and so on. Html Report can be defined as using html language to makereportson the web or the reports generated by html report generators. Apart from html,you may also hear about html5. it is the latest version of html programming , allowing more kinds of data (e.g. video, audio) to be incorporated.

CSS

Cascading **S**tyle **S**heets , fondly referred as CSS, is a simple design Language intended to simplify the process of making web pages prese -ntable.

CSS handles the look and feel part of a web page. Using CSS, you can Control the color of the text , the style of fonts , the spacing between paragraphs,how columns are sized and laid out,what background image ,colors are used,layout designs,variations in display for different device and screen sizes as well as a variety of other effects.

CSS is easy to learn and understand but it provides powerful control Over The presentation of an HTML document. Most commonly, CSS is combined with the markup languages HTML or XHTML.

Javascript:

JavaScript is a dynamic Computer Programming anguage.It is light weight and most commonly used as a part of web pages, whose imple -mentations allow client- side script to interact with the user and make dynamic pages . It is an interpreted programming language with object-oriented capabilities.

Analysis and Design

Analysis:

Today also we have to go to the online application quizzes for attempting the test. This quiz application useful for competions exams and also in interview As Technology is growing rapidly we are also moving to a technical world where everything we want to be online. So with the help of this project we are bringing the use of technology in the field of aptitude where the availability of varies aptitude topics in this quizz application.This project makes the user friendly platform and they improve their skills in aptitude . At a sametime its help to get the explaination of a problem in detail and it provide more links to Practice.

Disadvantage of present system:

- **Not user friendly :** The present system not user friendly because data is not stored in structure and proper format.
- **Manual Control :** All report calculation is done manually so there is a chance of error
- **Lots of paper work:** Visitors maintain in the register so lots of paper require storing details
- **Time consuming**

Design Introduction:

Design is the first step in the development phase for any techniques and principles for the purpose of defining a device, a process or system in sufficient detail to permit its physical realization. Once the software requirements have been analyzed and specified the software design involves three technical activities - design, coding, implementation and testing that Are required to build and verify the software.

The design activities are of main importance in this phase, because in this activity, decisions ultimately affecting the success of the software implementation and its ease of maintenance are made. These decisions have the final bearing upon r eliability and maintainability of the System .Design is the only way to accurately translate the customer's requirements into finished software or a system.

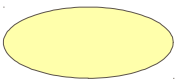
Design is the place where quality is fostered in development. Software design is a process through which requirements are translated intoa representation of software.Software design is conducted in two steps. Preliminary design is concerned with the transformation of the requirements into data

UML Diagram:

Actor:

A coherent set of roles that users of use cases play when interacting with the use cases an observable result of value of an actor.

Use case: A description of sequence of actions, including variants, that a system performs yields an observable result of value of an actor. actor diagram is drawned in a eclipse shape



UML stands for Unified Modeling Language. UML is a language for specifying, visualizing and documenting the system. This is the step while developing any product after analysis. The goal from this is to produce a model of the entities involved in the project which later need to be built. The representation of the entities that are to be used in the product being developed need to be designed.

USECASE DIAGRAMS:

Use case diagrams model behavior within a system and helps the developers understand of what the user require. The stick man represents what's called an actor.

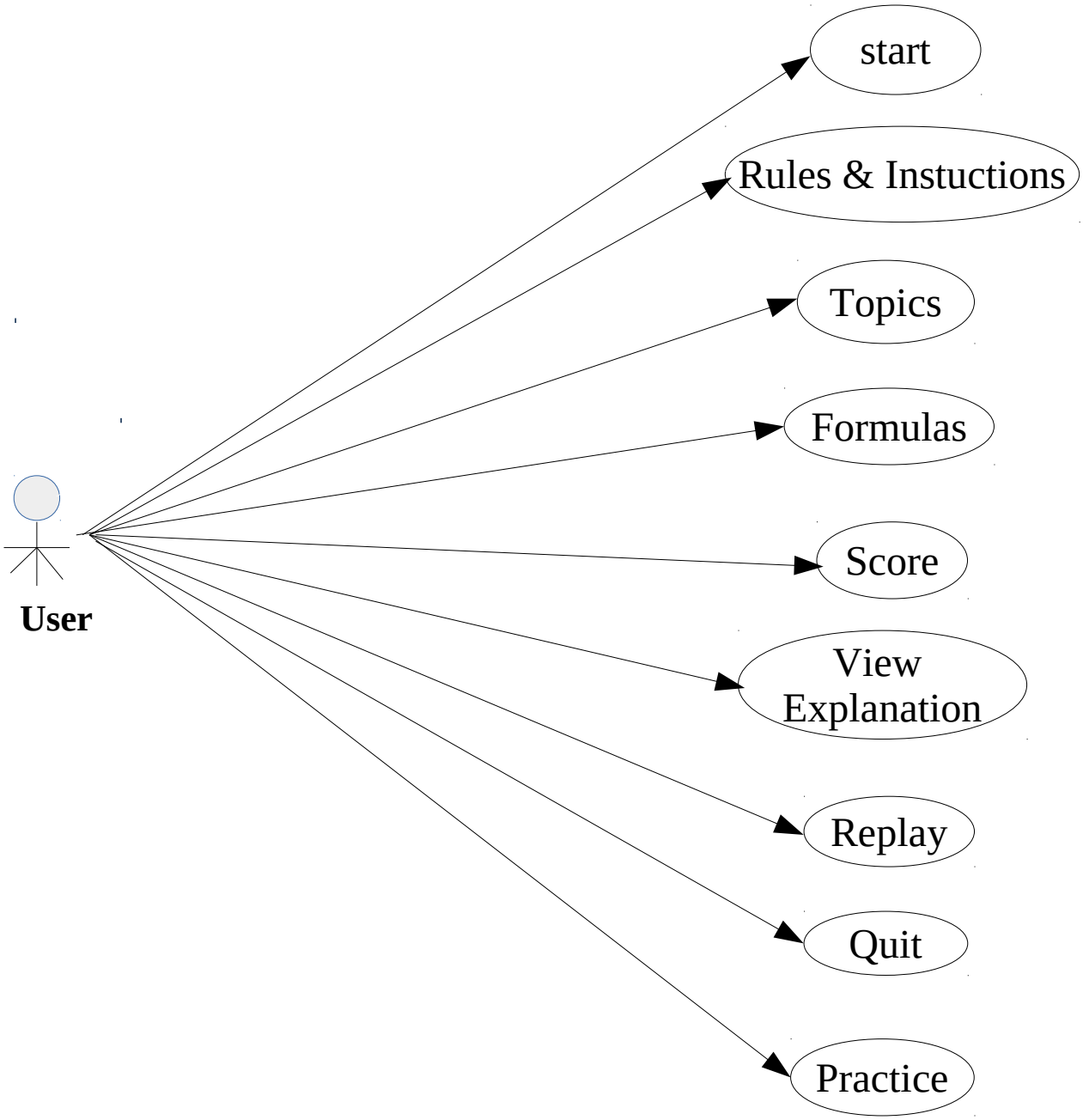
Use case diagram can be useful for getting an overall view of the system and clarifying that can do and more importantly what they can't do.

Use case diagram consists of use cases and actors and shows the interaction between the use case and actors.

- The purpose is to show the interactions between the use case and actor.
- To represent the system requirements from user's perspective.
- An actor could be the end-user of the system or an external system.

USECASE DIAGRAM: A Use case is a description of set of sequence of actions. Graphically it is rendered as an ellipse with solid line including only its name. Use case diagram is a behavioral diagram that shows a set of use cases and actors and their relationship. It is an association between the use cases and actors. An actor represents a real-world object. Primary Actor – Sender, Secondary Actor Receiver.

Use Case Diagrams:



ER Diagram:

The Entity-Relationship (ER) model was originally proposed by Peter in 1976 [Chen76] as a way to unify the network and relational database views. Simply stated the ER model is a conceptual data model that views the real world as entities and relationships. A basic component of the model is the Entity-Relationship diagram which is used to visually represent data objects. Since Chen wrote his paper the model has been extended and today it is commonly used for database design for the database designer, the utility of the ER model is:

- It maps well to the relational model. The constructs used in the ER model can easily be transformed into relational tables.
- It is simple and easy to understand with a minimum of training. Therefore, the model can be used by the database designer to communicate the design to the end user.
- In addition, the model can be used as a design plan by the database developer to implement a data model in specific database management software.

ER Notation

There is no standard for representing data objects in ER diagrams. Each modeling methodology uses its own notation. The original notation used by Chen is widely used in academics texts and journals but rarely seen in either CASE tools or publications by non-academics. Today,there are a number of notations used; among the more common are Bachman, crow's foot, and IDEFIX.

All notational styles represent entities as rectangular boxes and relationships as lines connecting boxes. Each style uses a special set of symbols to represent the cardinality of a connection. The notation used in this document is from Martin. The symbols used for the basic ER constructs are:

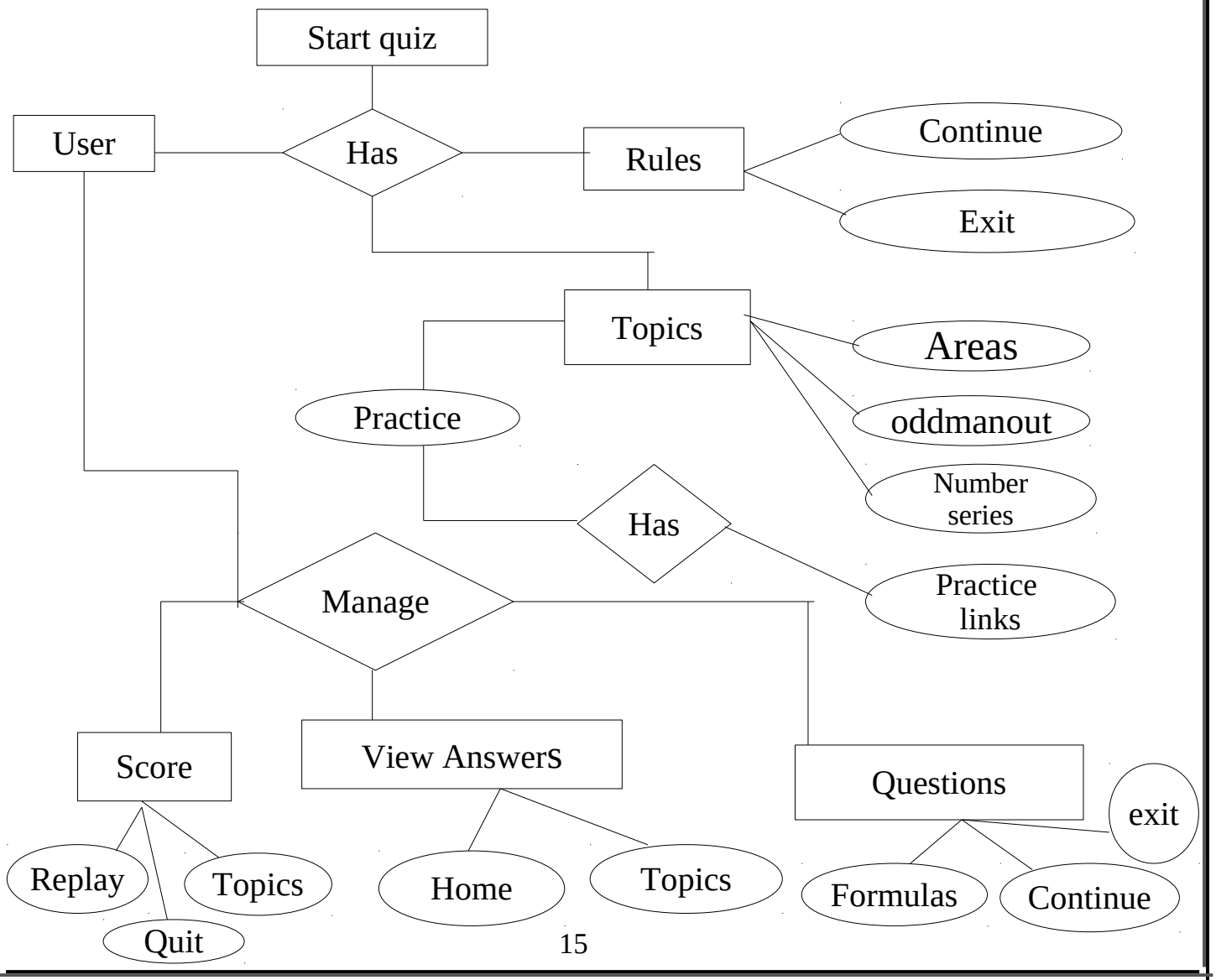
- **Entities** are represented by labeled rectangles. The label is the name of the entity. Entity names should be singular nouns.
- **Relationships** are represented by a solid line connecting two entities. The name of the relationship is written above the line. Relationship names should be verbs

- **Attributes**, when included, are listed inside the entity rectangle. Attributes which are identifiers are underlined. Attribute names should be singular nouns

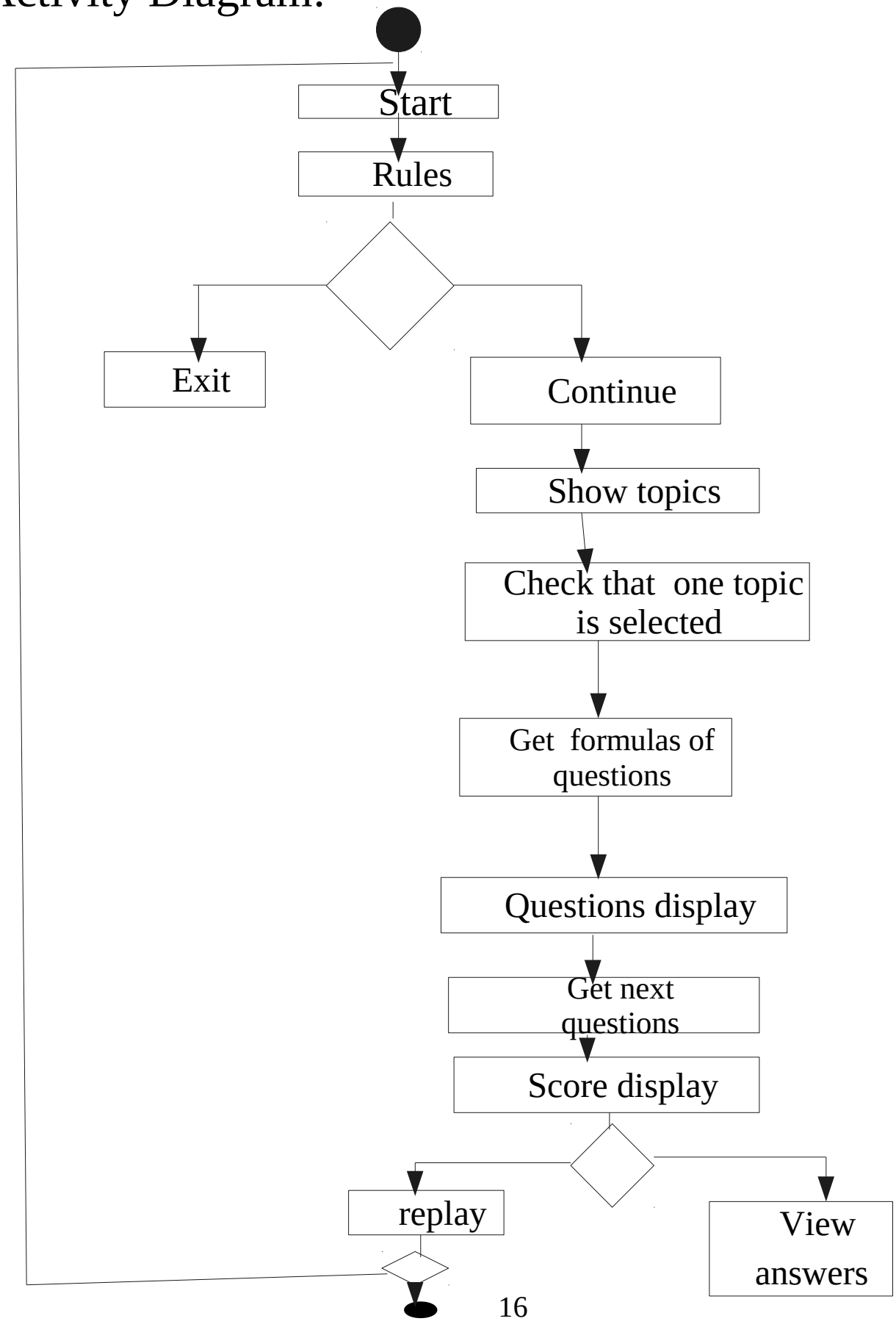
- **Cardinality** of many is represented by a line ending in a crow's foot. If the crow's foot is omitted, the cardinality is one.

Existence is represented by placing a circle or a perpendicular bar on the line. Mandatory existence is shown by the bar (looks like a 1) next to the entity for an instance is required. Optional existence is shown by placing a circle next to the entity that is optional.

ER Diagram



Activity Diagram:



Implementation and System Testing

After all phase have been perfectly done, the system will be implemented to the server and the system can be used.

System Testing

The goal of the system testing process was to determine all faults in our project .The program was subjected to a set of test inputs and many explanations were made and based on these explanations it will be decided whether the program behaves as expected or not. Our Project went through two levels of testing

1. Unit testing

2 .Integration testing

Unit Testing

Unit testing is commenced when a unit has been created and effectively reviewed .In order to test a single module we need to provide a complete environment i.e. besides the section we would require The procedures belonging to other units that the unit under test calls Non local data structures that module accesses . A procedure to call the functions of the unit under test with appropriate parameters

Integration Testing

In the Integration testing we test various combination of the project module by providing the input.

The primary objective is to test the module interfaces in order to confirm that no errors are occurring when one module invokes the other module.

Source Code

```
const start_btn = document.querySelector(".start_btn button");
const info_box = document.querySelector(".info_box");
const exit_btn = info_box.querySelector(".buttons .quit");
const continue_btn = info_box.querySelector(".buttons .restart");
const quiz_box = document.querySelector(".quiz_box");
const result_box = document.querySelector(".result_box");
const option_list = document.querySelector(".option_list");
const time_line = document.querySelector("header .time_line");
const timeText = document.querySelector(".timer .time_left_txt");
const timeCount = document.querySelector(".timer .timer_sec");
start_btn.onclick = ()=>{
    info_box.classList.add("activeInfo");
}
exit_btn.onclick = ()=>{
    info_box.classList.remove("activeInfo");
}
continue_btn.onclick = ()=>{
    info_box.classList.remove("activeInfo");
    quiz_box.classList.add("activeQuiz");
    showQuetions(0);
    queCounter(1);
    startTimer(60);
    startTimerLine(0);
}
let timeValue =  60;
let que_count = 0;
let que_numb = 1;
let userScore = 0;
let counter;
let counterLine;
let widthValue = 0;
const restart_quiz = result_box.querySelector(".buttons .restart");
const quit_quiz = result_box.querySelector(".buttons .quit");
restart_quiz.onclick = ()=>{
    quiz_box.classList.add("activeQuiz");
    result_box.classList.remove("activeResult");
    timeValue = 60;
    que_count = 0;
    que_numb = 1;
    userScore = 0;
    widthValue = 0;
    showQuetions(que_count);
    queCounter(que_numb);
    clearInterval(counter);
    clearInterval(counterLine);
    startTimer(timeValue);
    startTimerLine(widthValue);
    timeText.textContent = "Time Left";
    next_btn.classList.remove("show");
}
quit_quiz.onclick = ()=>{
    window.location.reload();
}
const next_btn = document.querySelector("footer .next_btn");
const bottom_ques_counter = document.querySelector("footer .total_que");
next_btn.onclick = ()=>{
    if(que_count < questions.length - 1){
        que_count++;
```

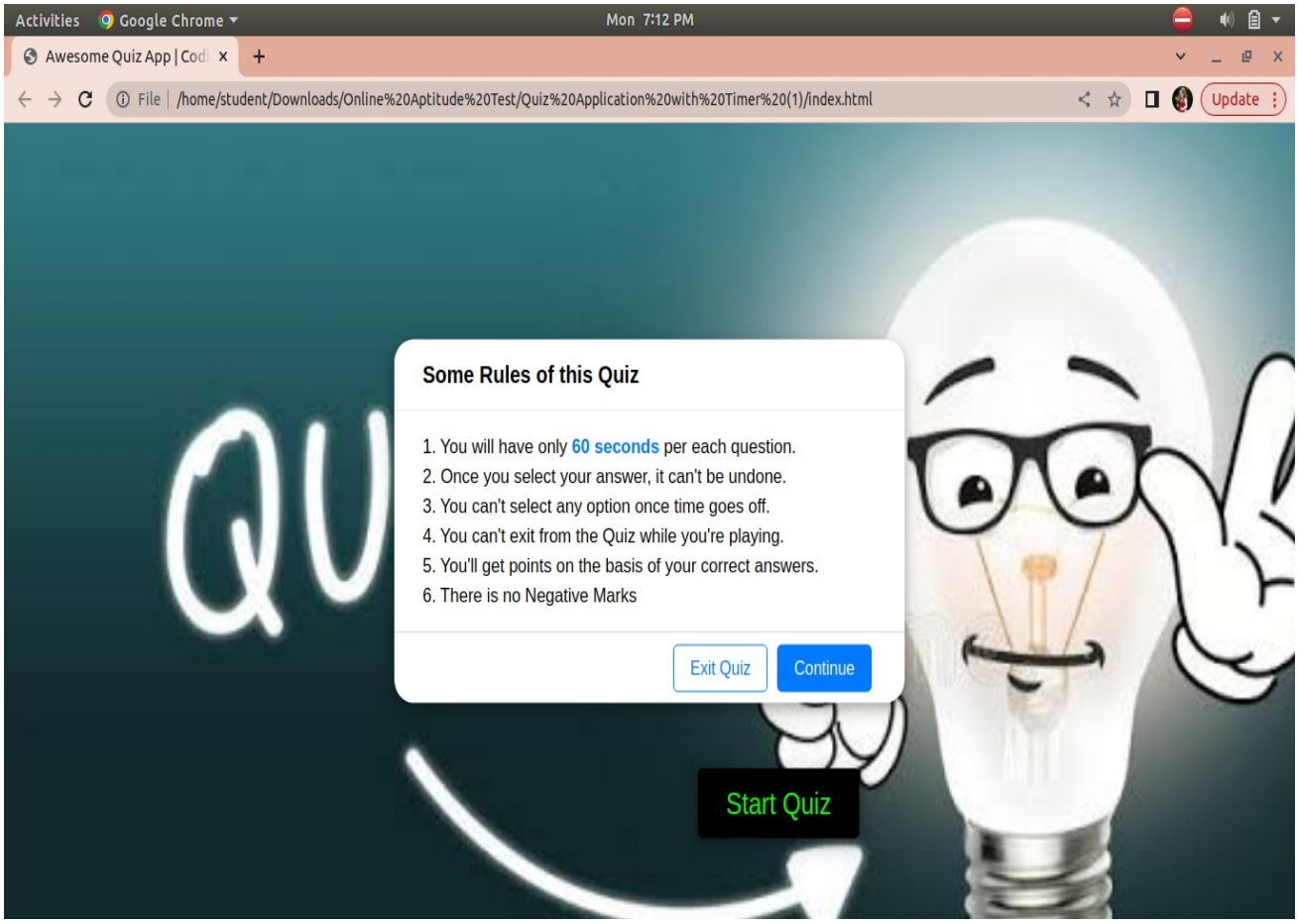
```
showQuetions(que_count);
        queCounter(que_numb);
        clearInterval(counter);
        clearInterval(counterLine);
        startTimer(timeValue);
        startTimerLine(widthValue);
        timeText.textContent = "Time Left";
        next_btn.classList.remove("show");
    }else{
        clearInterval(counter);
        clearInterval(counterLine);
        showResult();
    }
}function showQuetions(index){
    const que_text = document.querySelector(".que_text");
    let que_tag = '<span>'+ questions[index].numb + ". " + questions[index].question +'</span>';
    let option_tag = '<div class="option"><span>'+ questions[index].options[0] +'</span></div>'
    + '<div class="option"><span>'+ questions[index].options[1] +'</span></div>'
    + '<div class="option"><span>'+ questions[index].options[2] +'</span></div>'
    + '<div class="option"><span>'+ questions[index].options[3] +'</span></div>';
    que_text.innerHTML = que_tag;
    option_list.innerHTML = option_tag;
    const option = option_list.querySelectorAll(".option");
    for(i=0; i < option.length; i++){
        option[i].setAttribute("onclick", "optionSelected(this)");
    }
}
let tickIconTag = '<div class="icon tick"><i class="fas fa-check"></i></div>';
let crossIconTag = '<div class="icon cross"><i class="fas fa-times"></i></div>';
function optionSelected(answer){
    clearInterval(counter);
    clearInterval(counterLine);
    let userAns = answer.textContent;
    let correcAns = questions[que_count].answer;
    const allOptions = option_list.children.length;
     if(userAns == correcAns){
        userScore += 1;
        answer.classList.add("correct");
        answer.insertAdjacentHTML("beforeend", tickIconTag);
        console.log("Correct Answer");
        console.log("Your correct answers = " + userScore);
    }else{
        answer.classList.add("incorrect");
        answer.insertAdjacentHTML("beforeend", crossIconTag);
        console.log("Wrong Answer");
        for(i=0; i < allOptions; i++){
            if(option_list.children[i].textContent == correcAns){
                option_list.children[i].setAttribute("class", "option correct");
                option_list.children[i].insertAdjacentHTML("beforeend", tickIconTag);
                console.log("Auto selected correct answer.");
            }
              }
    }
    for(i=0; i < allOptions; i++){
        option_list.children[i].classList.add("disabled");
    }
    next_btn.classList.add("show");
}
function showResult(){
    info_box.classList.remove("activeInfo");
    quiz_box.classList.remove("activeQuiz");
    result_box.classList.add("activeResult");
    const scoreText = result_box.querySelector(".score_text");
```

```
 if (userScore > 5){
        let scoreTag = '<span>and congrats! , You got <p>'+ userScore +'</p> out of <p>'+ questions.length +'</p></span>';
        scoreText.innerHTML = scoreTag;
    }
    else if(userScore > 1){
        let scoreTag = '<span>and nice 😎, You got <p>'+ userScore +'</p> out of <p>'+ questions.length +'</p></span>';
        scoreText.innerHTML = scoreTag;
    }
    else{
        let scoreTag = '<span>and sorry 😐, You got only <p>'+ userScore +'</p> out of <p>'+ questions.length +'</p></span>';
        scoreText.innerHTML = scoreTag;
    }
}
function startTimer(time){
    counter = setInterval(timer, 1000);
    function timer(){
        timeCount.textContent = time;
        time--;
        if(time < 9){
            let addZero = timeCount.textContent;
            timeCount.textContent = "0" + addZero;
        }if(time < 0){
            clearInterval(counter);
            timeText.textContent = "Time Off";
            const allOptions = option_list.children.length;
            let correcAns = questions[que_count].answer;
            for(i=0; i < allOptions; i++){
                if(option_list.children[i].textContent == correcAns){
                    option_list.children[i].setAttribute("class", "option correct");
                  option_list.children[i].insertAdjacentHTML("beforeend", tickIconTag);
                    console.log("Time Off: Auto selected correct answer.");
                }
            }
            for(i=0; i < allOptions; i++){
                option_list.children[i].classList.add("disabled");
            }
            next_btn.classList.add("show");
        }
    }
}
function startTimerLine(time){
    counterLine = setInterval(timer, 29);
    function timer(){
        time += 1;
        time_line.style.width = time + "px";
        if(time > 549){
            clearInterval(counterLine);
         }
    }
}
function queCounter(index){
    let totalQueCounTag = '<span><p>'+ index +'</p> of <p>'+ questions.length +'</p> Questions</span>';
    bottom_ques_counter.innerHTML = totalQueCounTag;
}
```

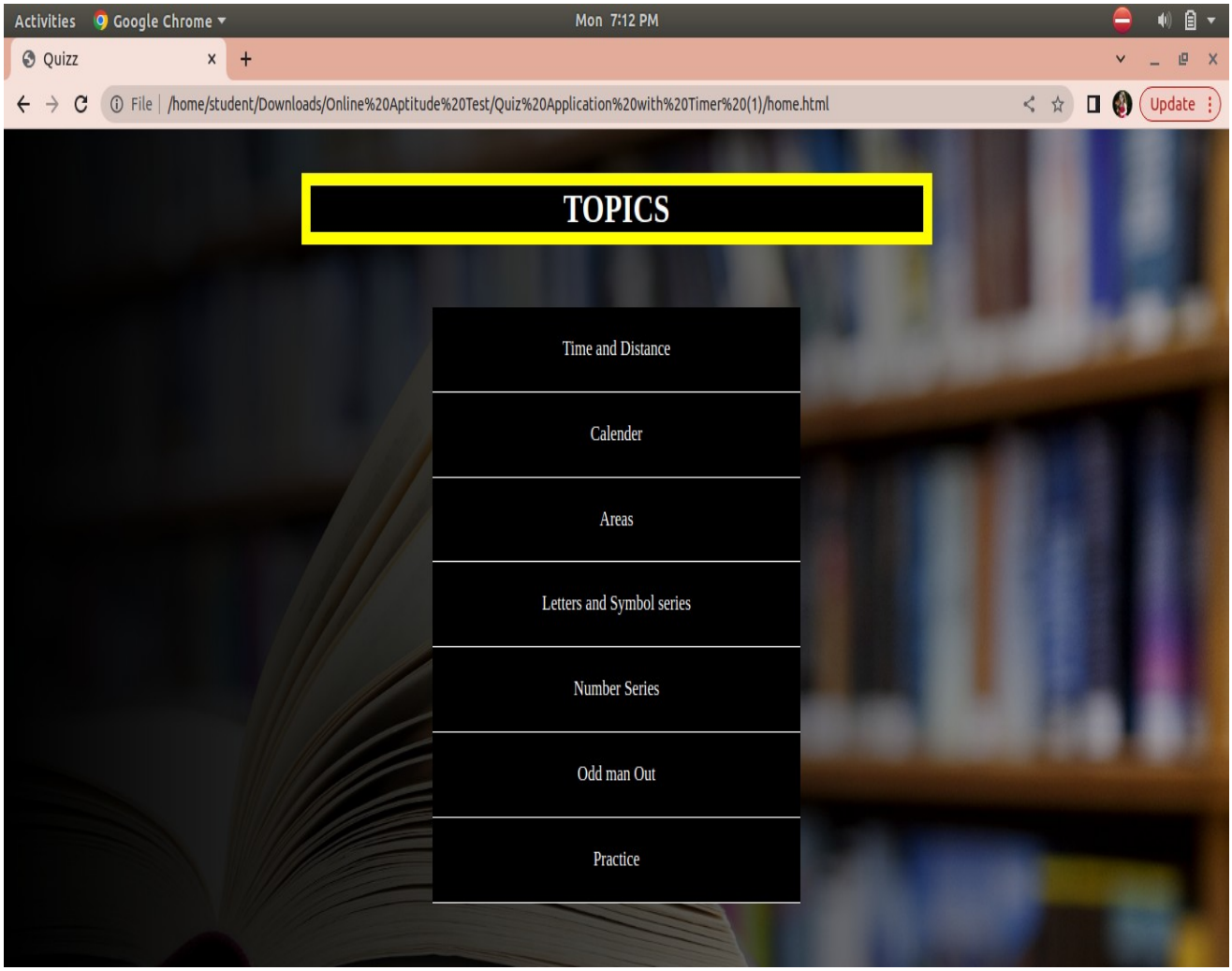
Evaluation

Home Page:

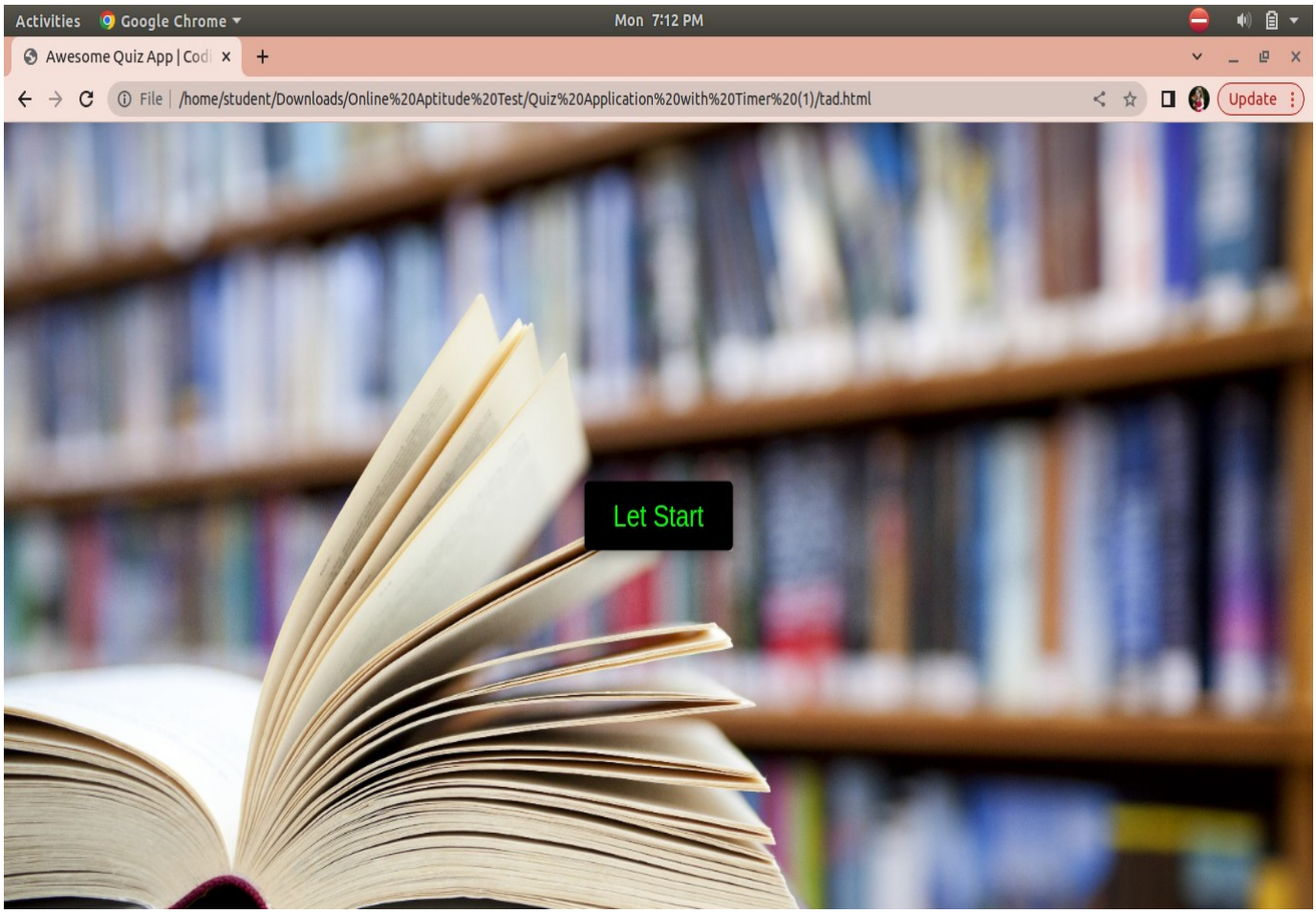
Rules of this Quiz:



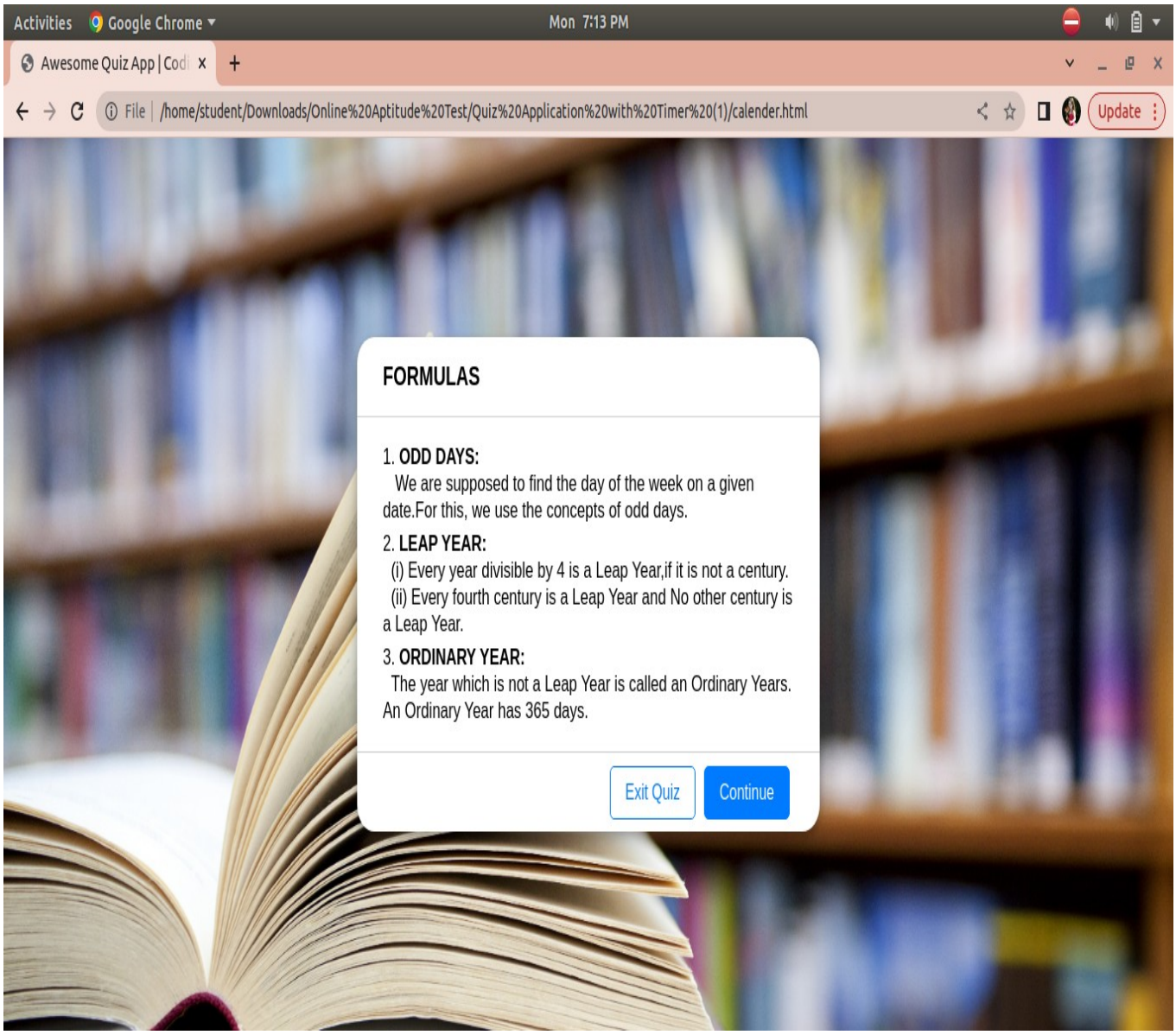
Topics Page:


Activities
Google Chrome
Mon 7:12 PM
Quizz
File | /home/student/Downloads/Online%20Aptitude%20Test/Quiz%20Application%20with%20Timer%20(1)/home.html
Update
TOPICS
Time and Distance
Calender
Areas
Letters and Symbol series
Number Series
Odd man Out
Practice

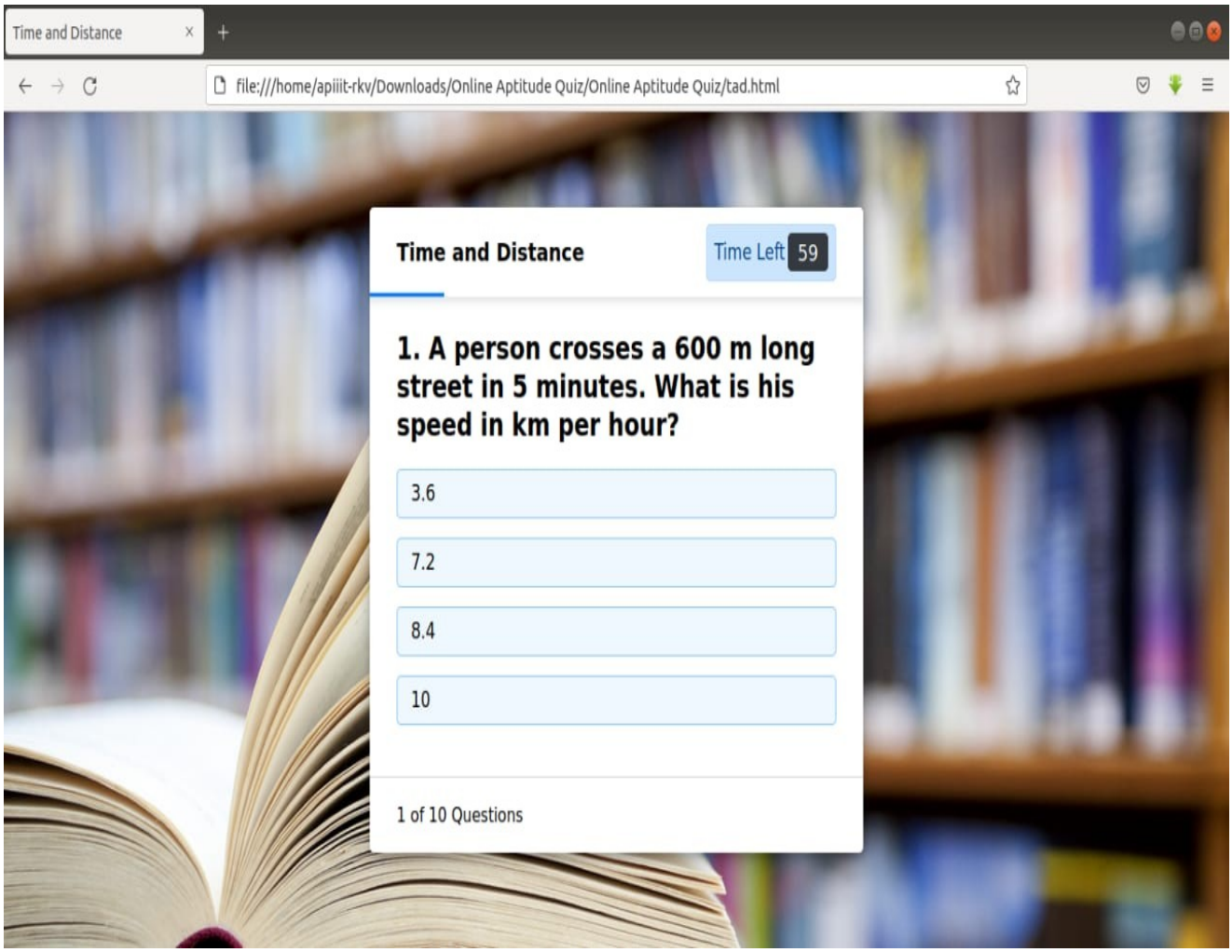
Start page:


Activities
Google Chrome
Mon 7:12 PM
Awesome Quiz App | Cod
File | /home/student/Downloads/Online%20Aptitude%20Test/Quiz%20Application%20with%20Timer%20(1)/tad.html
Update
Let Start

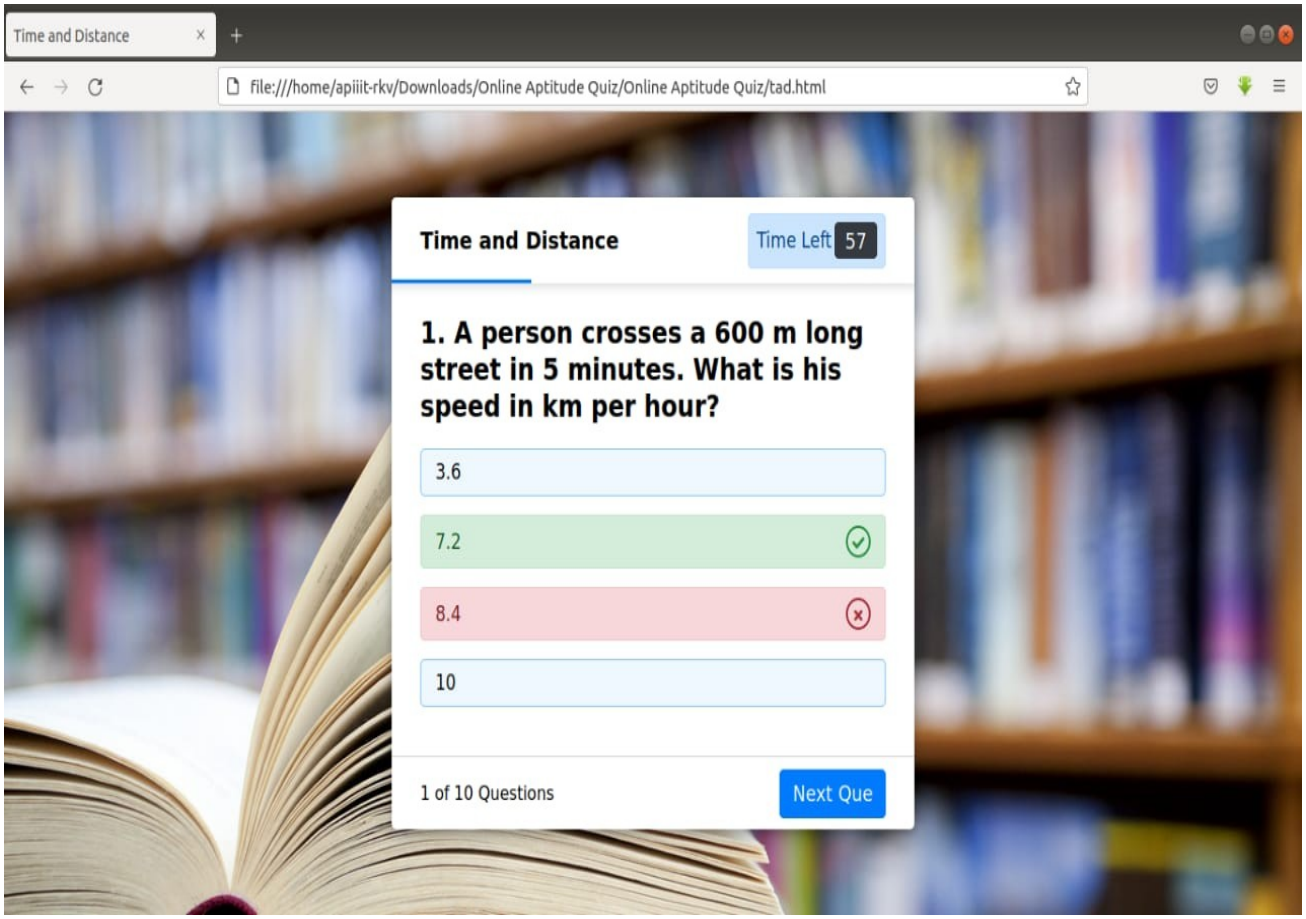
Formulas of Topics:



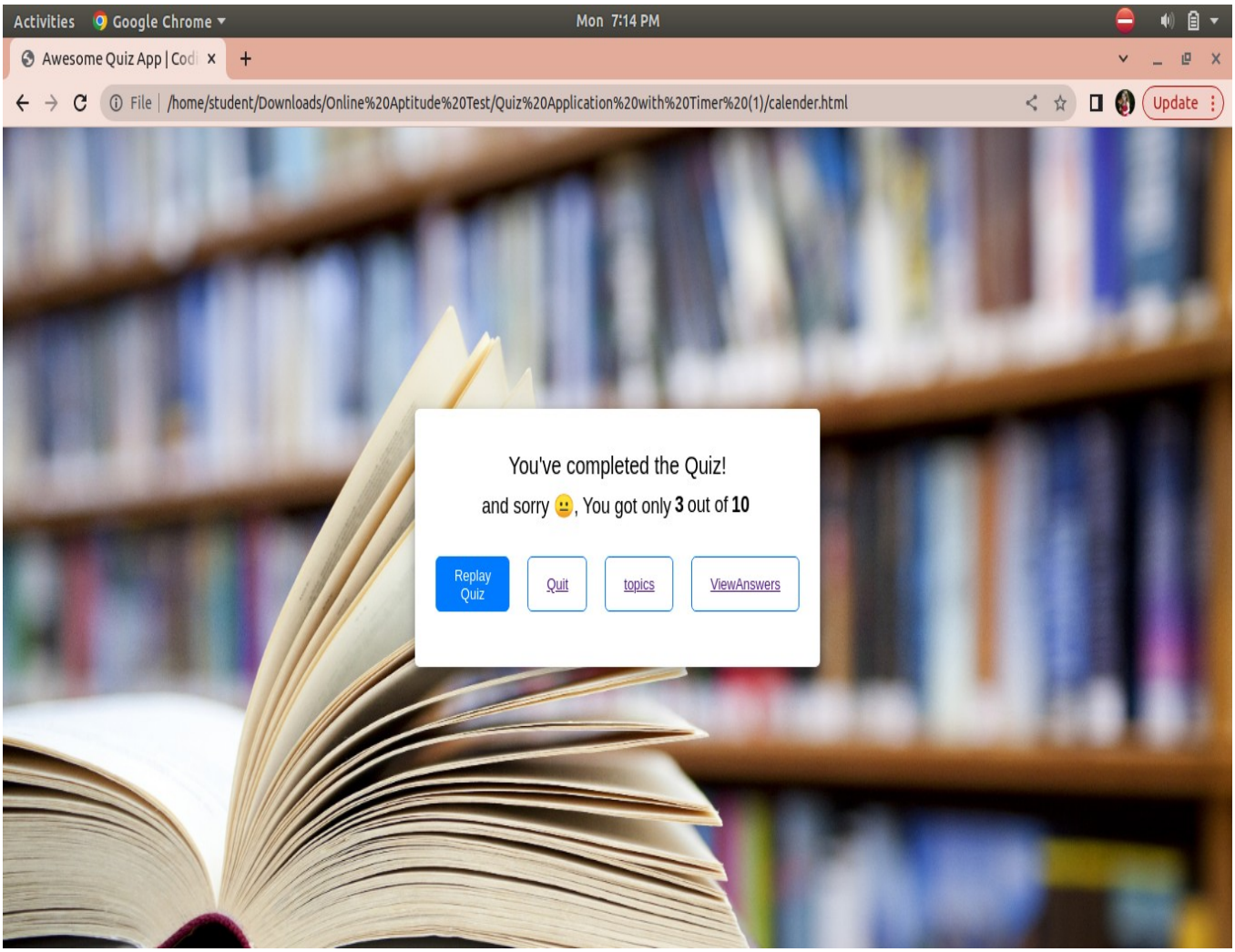
Questions display page:



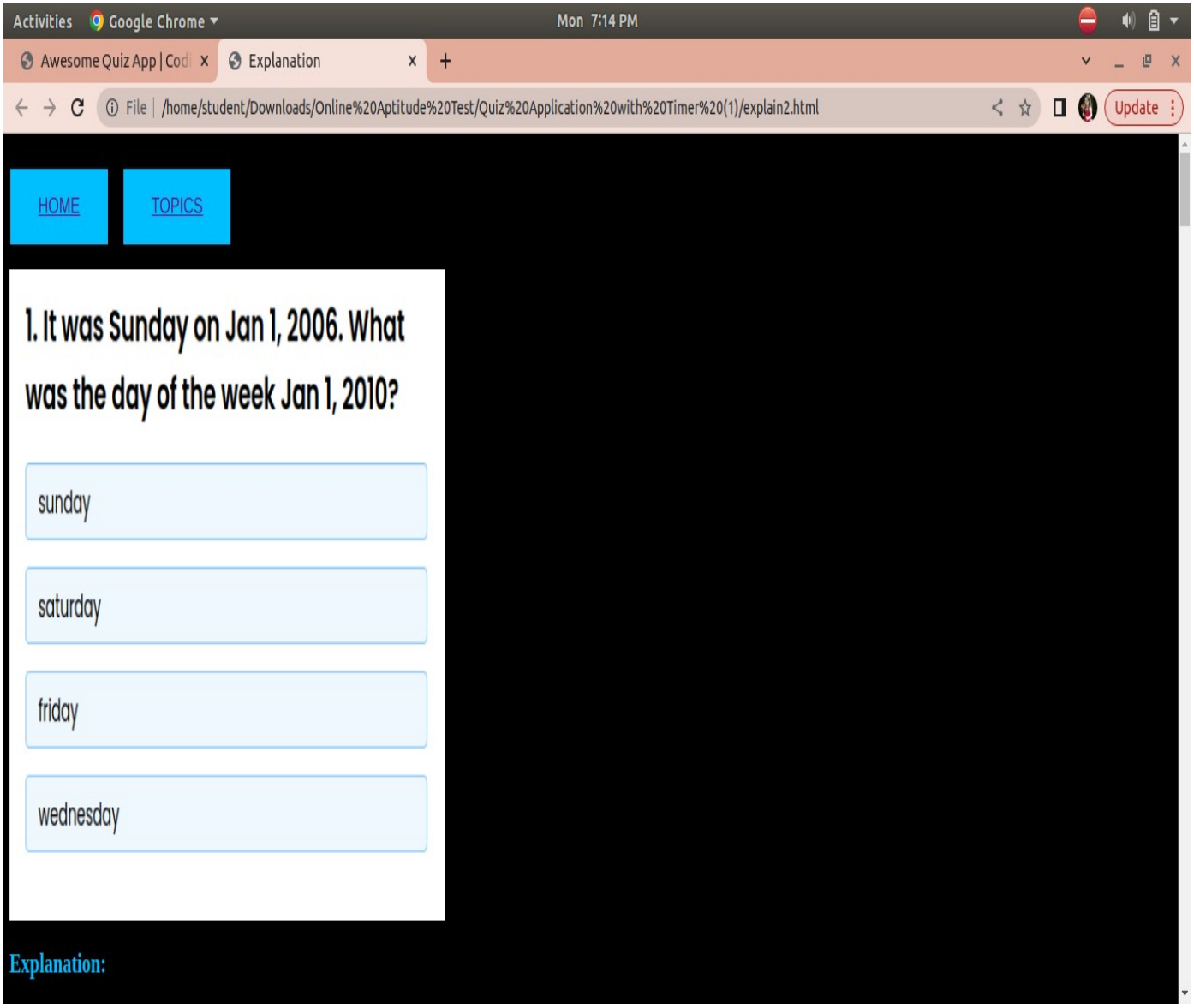
Answers display page:



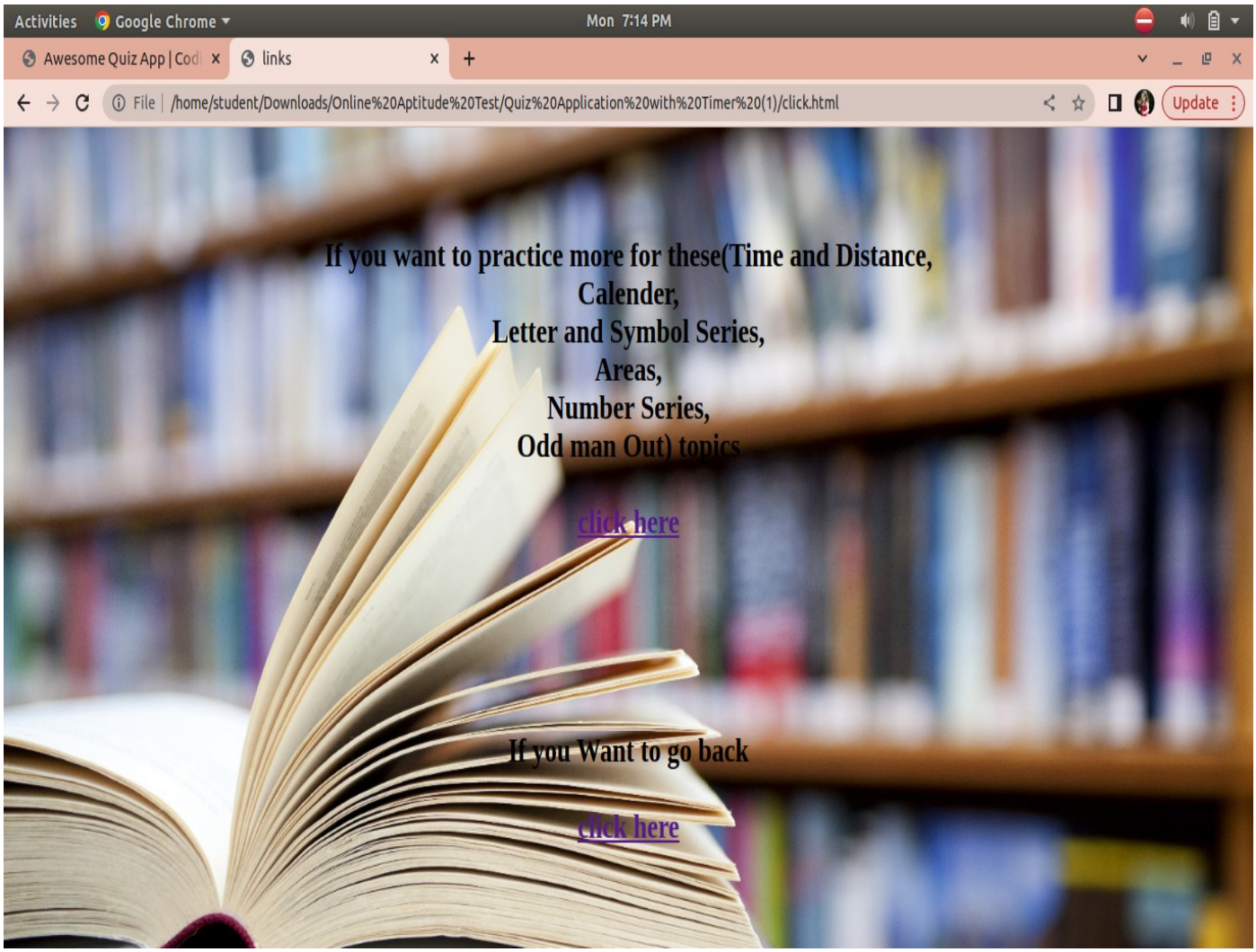
Score display page:



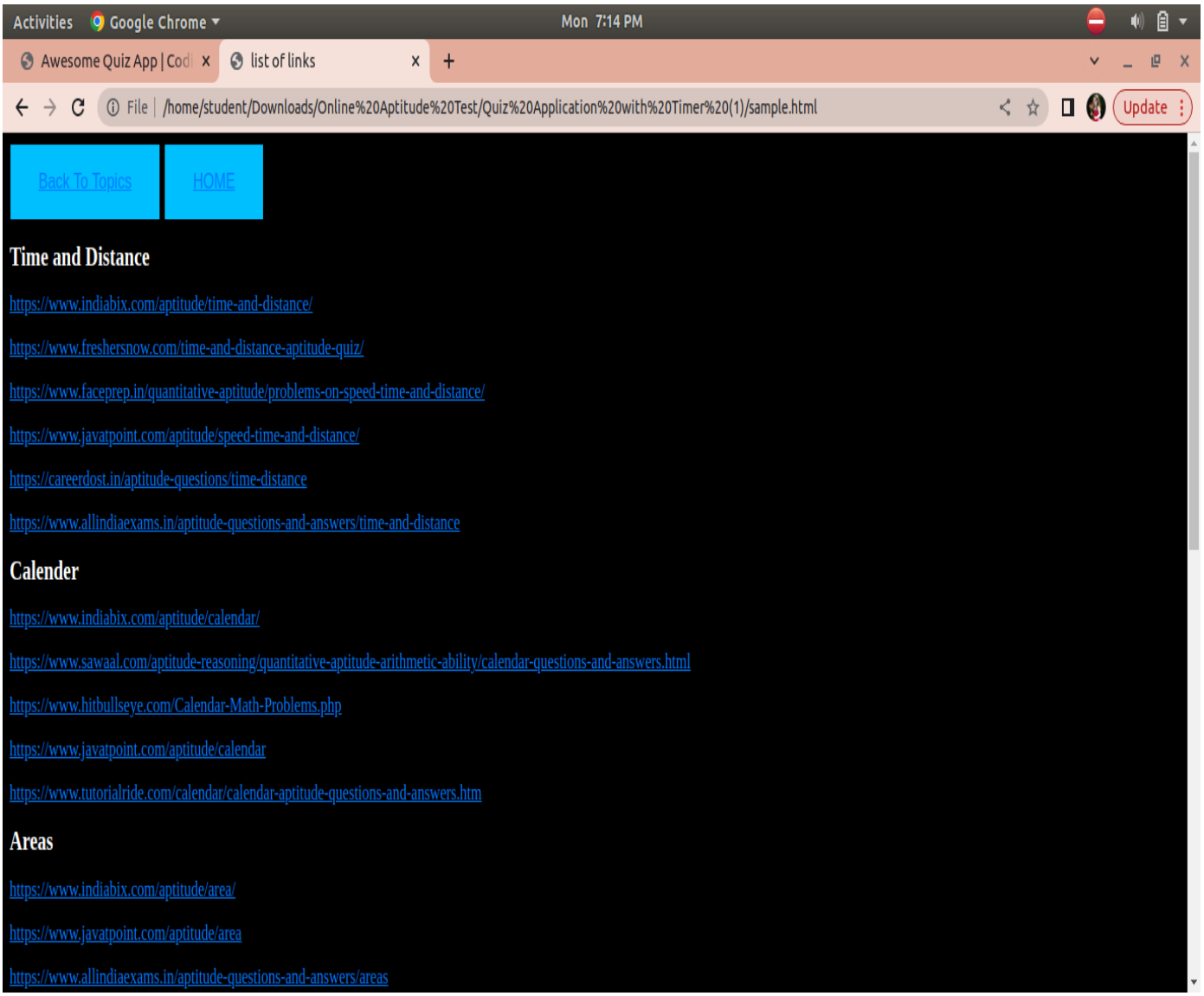
Explanation of Answers:



Practice links page:



Practice links:



Conclusion

This online quiz application provides facility to play quiz anywhere and anytime.It save time sinces user does not need to wait for result. so user /student cannot wait for the result. All student are user get extra know -ledge and skills . Administrator has a privilege to put as much as quest -ion in any category given in application . User can attempt the quiz multiple times, the user can get the score according to there performance and also clear their doubts in explination and also user can practice more by the links which is in application.

References

For HTML

- https://www.w3schools.com/html/
- https://www.tutorialspoint.com/html/index.htm
- https://www.javatpoint.com/html-tutorial

For CSS

- https://www.w3schools.com/css/
- https://www.tutorialspoint.com/css/index.htm

For Javascript

- https://www.w3schools.com/js/

*****************************THANKYOU***************************