ICTWEB503 Create web-based
programs ICT50115 Diploma of
Information Technology

ICTWEB503 Create web-based programs

Student statement of academic honesty	
Student Name:	CACI RUTHVIJ
Student ID:	TCO118016
Assessment Commenced (Date):	17/12/2018
Assessment Completed (Date):	04/01/2019
I hereby certify that I will undertake these assessment tasks utilising my own work without assistance from any other parties. I will not knowingly plagiarise any work in completing these assessment activities. I am aware of ATMC's policy, *P21 – Academic Conduct Plagiarism and Cheating.*	
Student Signature:	
Date:	07 / 01 / 2019

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Task-1

I am an IT specialist and once I got a call from a company called Fitness center to develop a web-based program to manage their customers data. They need me to develop a website where the customers can register and can see the information about the Fitness center. They also need a database where the customer details which were entered in the website should save in the database.

Identifying the hypertext protocol required

- There are different types of verbs in HTTP which includes,
    - ✓ Head method
    - ✓ Post method
    - ✓ Delete method
    - ✓ Options Method, etc.
- In this website HTTP also handles the session management where by clicking the logout button in the last page of the website then the users can logout from the website.
- I have used XAMPP server for creating this project.
- Here HTTP collects the information from the users entered in the website and sends it to the server which is in middle-end and from there the server gives response to the users.
- HTTP can be used for both request and response as it contains headers like connections and programs.

Limitations of HTTP

- In HTTP the content cannot be cached but the trend towards this higher bandwidth disables this disadvantage of the HTTP.
- In HTTP there is no option for virtual hosting which is one of the major disadvantages in HTTP.
- As HTTP is not an encrypted using that may not be secured in all the scenario.

Advantages of HTTP

HTTP contains different types of advantages and that includes,

Addressing

- Through Hypertext transfer protocol we can transfer any type of data from any browser. This HTTP can also easily address and map the IP address any computers through the internet.

Security

- The new version of HTTP is HTTPs through which we can securely transfer the data from one browser to another. This HTTPs downloads each file individually and finally closes the connection and from this it reduces the risk of interception during the transmission of data.

Coding

- As HTTP is coded in a plain text it is easy to follow and implement which requires a lookup. In HTTP data is formatted in lines of text and not as strings of variables or fields.

Persistence connections

- HTTP has an ability to maintain an open connection for several requests and in the concept of "pipelining" was added, enabling many requests to be sent to the receiving computer before the first request is served.

Task-2

Handling the session management

In this website of Fitness Center, I have used session management method where the user can login his account in the first page of the website and can also logout from his website in the last page of the website.

```php
<?php

session_start();

// Destroying All Sessions

if(session_destroy())

{

// Redirecting To Home Page

header("Location: login.php");

}

?>
```

The above one is the code which I have used for creating and destroying the sessions in this website. When the customer enters his email and password in the first page of the website and clicks the login button then the session starts and can login the website. In the last page of the website which contains some details about the Fitness Center there is also a button called logout and from clicking that button the session ends and the person can logout from the website.

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Retaining the users' interface with the website

In my first page of the website when an authenticated user try's to login then he can enter the last page which contains details about the Fitness Center but if the customer is the new one to visit this website then he needs to register his details in the website in the registrations page which comes by clicking the link in login page. These details of the customer will be stored in the database securely and will be retrieved. This is how this website retains the user's interface.

This is my screen shot of the database where the customer information is stored.
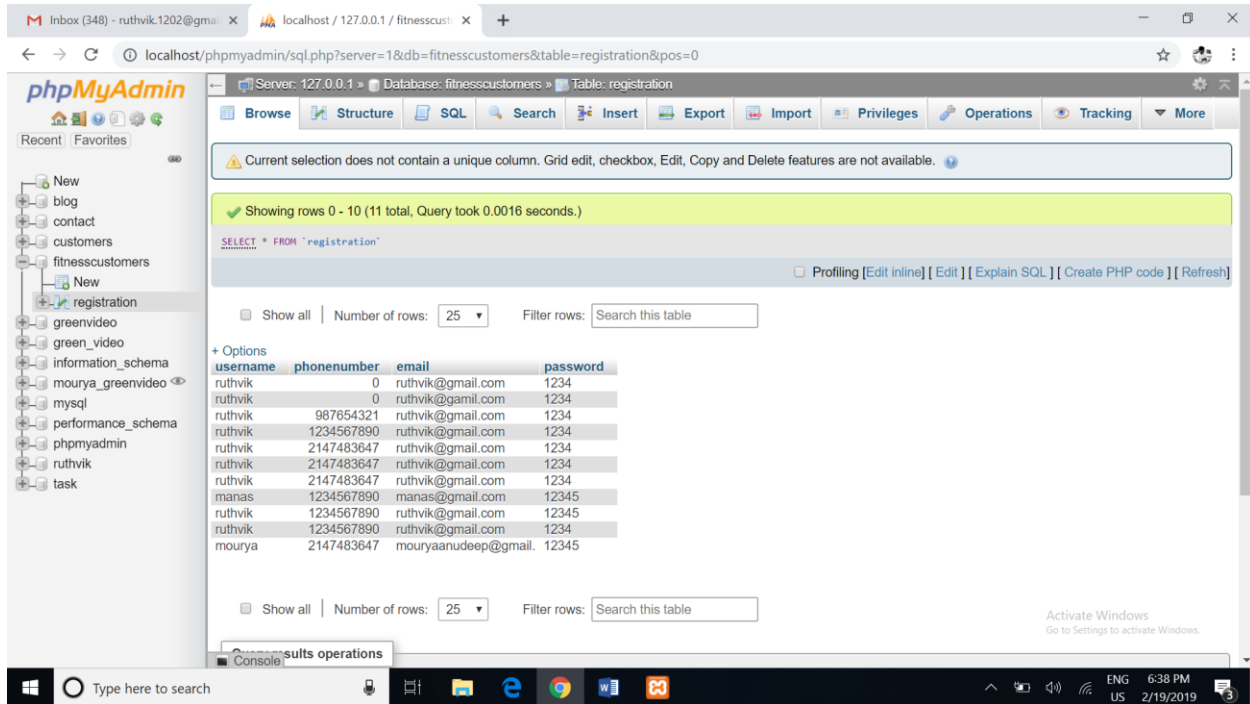
Reviewing and debugging the code

I have checked the code for this website many times so that there will be no bugs in the website when the customers access this website. For the first time when I have created the code for this website, I got many errors in the website like the data will be not stored in the database, the session is not working properly, etc. After reviewing and debugging the errors in the code the website has worked properly as per the client requirement.

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This is my error for my second page

stdClass Object ([username] => ruthvik [phonenumber] => 1234567890 [email] => ruthvik@gmail.com [password] => 1234)
Notice: Undefined variable: res in **C:\xampp\htdocs\Ruthvik\503\index.php** on line **16**
error
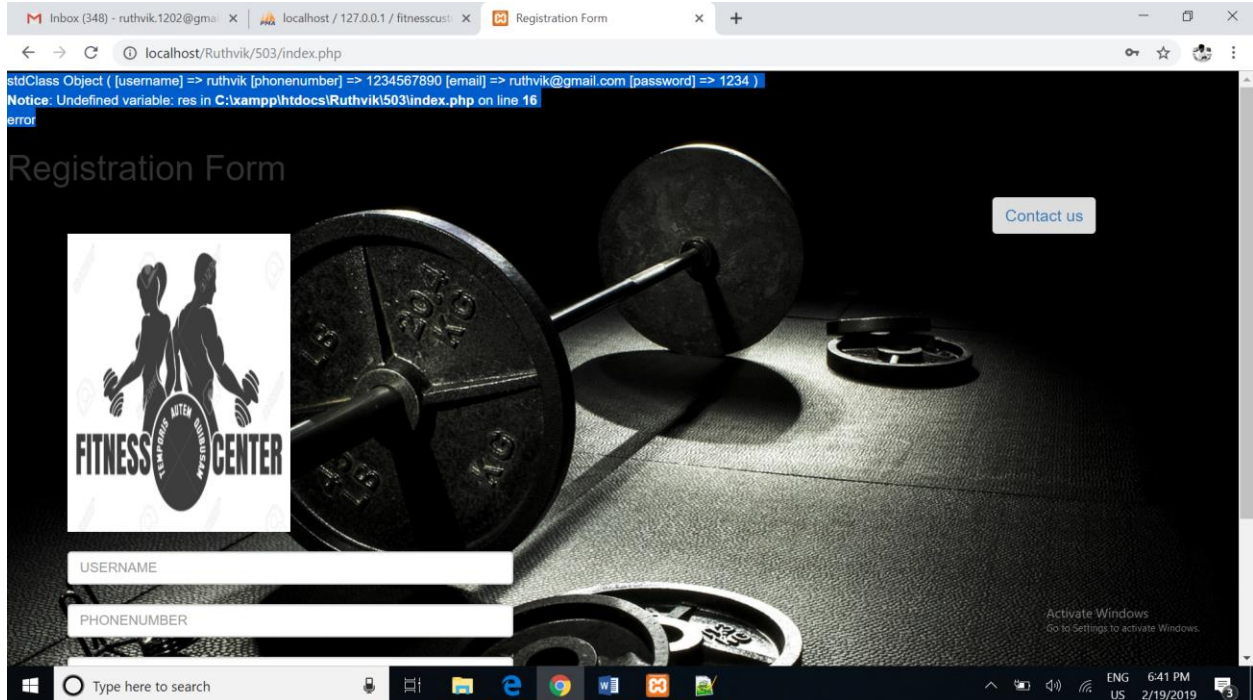
This is my second page when I have debugs this code for second page.

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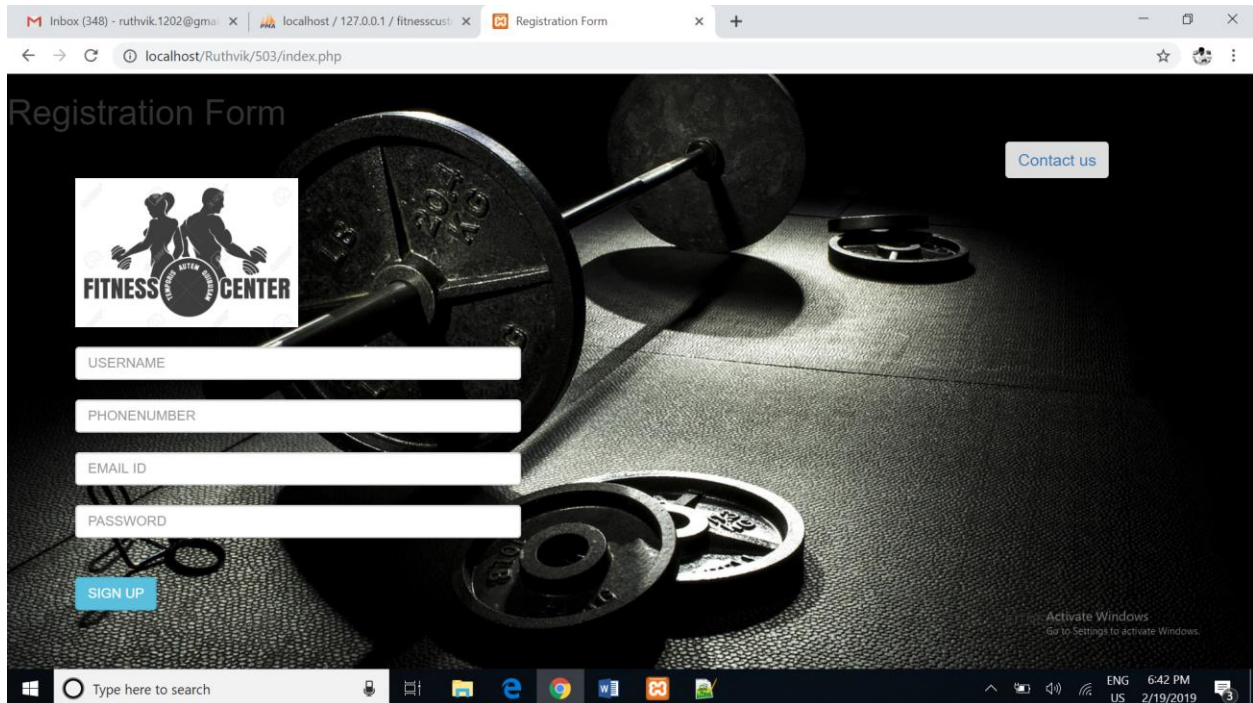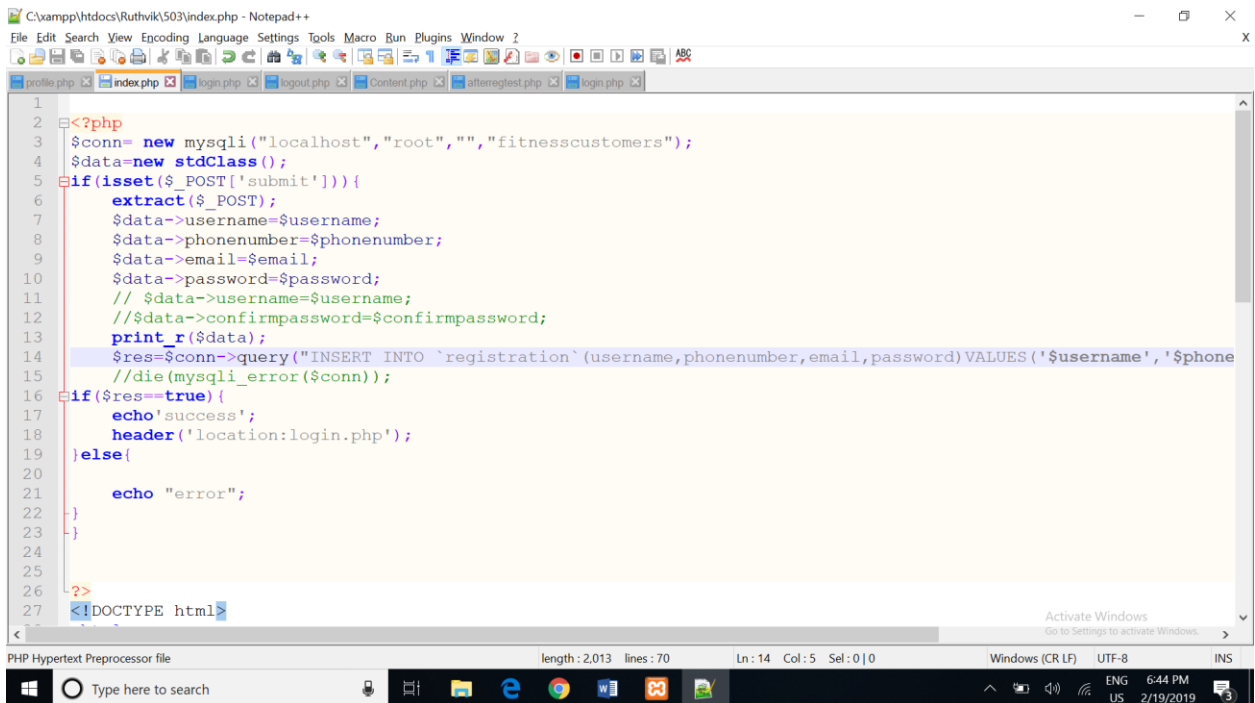
Task-3

Developing a web application

- I have used notepad++ instead of visual studios for writing the code for this website. Through this notepad++ we can have many benefits like this shows where the error is present in the code and also this studio gives different colors for each and every component in the code.

This is my screen shot of code in notepad++.

- I have checked the code for this website many times so that there will be no bugs in the website when the customers access this website. For the first time when I have created the code for this website, I got many errors in the website like the session is not ending in a correct way. When the customer try's to logout from the website in the last page by clicking logout button then the session is not working in a proper way and the customer cannot logout from the website but after evaluating the code many times there are no errors in the webpage and the session destroy is also working as per the requirement.
I have used the below PHP code for destroying the session
if(session_destroy())
{
header("Location: login.php");
}
?>

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- I have used CSS scripting which is known as Cascading Style Sheet in my different codes for creating this webpage. CSS is mainly used for styling the webpages with images, logos, colors, etc. In my first page which is a login page I have used a background image, and some colors for the text in the webpage.

This is my CSS code which I have used for my first page for styling the page

```
<style>

body{background-image:url('for.jpg');
background-repeat:no-repeat;
background-position:center;
background-size:cover;
margin-top:15%;}
footer{margin-left:80%;}
nav{margin-left:80%;}
h1{color:tomato;}
span{color:tomato;}
</style>
```

In my second page which is a registration page I have again used background-image, logo of the company and different colors for different texts.

This is my CSS code which I have used for my second page for styling the page

```
<style>
body{background-image:url('bg.jpg');
background-repeat:no-repeat;
background-position:center;
background-size:cover;}
footer{margin-left:80%;}
nav{margin-left:80%;}
img{height:50%;
width:50%;}
</style>
```

In my last page which contain the details about the company I have used grey color as a background and the text in this webpage is of black color. This page also have a heading in the center of this page.

This is my CSS code which I have used for my last page for styling the page

```
<style>
body{background-color:grey;
color:black;}
img{height:30%;
```

width:30%;}
h2{align:center;}
</style>

Management of statelessness
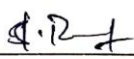
Here in this website the amount of time that customer visits this website is not stored or recorded in my database which is known as statelessness and for managing this statelessness in my website I have searched for statelessness in different websites like w3schools, stake flow, etc.

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Student statement of academic honesty	
Student Name:	CAGI RUTHVIJ
Student ID:	TCO118016
Assessment Commenced (Date):	17/12/2018
Assessment Completed (Date):	04/01/2019
I hereby certify that I will undertake these assessment tasks utilising my own work without assistance from any other parties. I will not knowingly plagiarise any work in completing these assessment activities. I am aware of ATMC's policy, *P21 – Academic Conduct Plagiarism and Cheating.*	
Student Signature:	
Date:	07/01/2019

Assessment 2 – Written Test	
Student Name:	SAGI RUTHVIK
Student ID No:	TSO118016
Date:	04/01/2019

Student Instructions:

- This is an open book written test.
- You have 90 minutes to complete the test.
- Please read every question carefully. You must answer all the questions correctly to achieve satisfactory result for this assessment.
- If you are caught cheating/plagiarism, the test will be marked "Not Satisfactory" and you will be subject to the penalties stated in ATMC's Academic Conduct policy regarding cheating and plagiarism.

Student statement of academic honesty	
Student Name:	SAGI RUTHVIK
Student ID:	TSO118016
Assessment Commenced (Date):	12/12/2018
Assessment Completed (Date):	04/01/2019
I hereby certify that I will undertake these assessment tasks utilising my own work without assistance from any other parties. I will not knowingly plagiarise any work in completing these assessment activities. I am aware of ATMC's policy, P21 – Academic Conduct Plagiarism and Cheating.	
Student Signature:	
Date:	04/01/2019

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QUESTIONS	
1. What is HTTP and its purpose?	Satisfactory ❒ Yes ❒ No
HTTP is a hypertext transfer protocol which is mainly used for transferring the data over the web. It is part of the Internet protocol and HTTP uses a server-client model.	
2. What are the limitations HTTP?	Satisfactory ❒ Yes ❒ No
This is also configurable somewhere in the server settings. The average server will display a server-specific error when the POST limit is exceeded, usually as HTTP 500 error.	
3. Shortly identify the advantages of HTTP?	Satisfactory ❒ Yes ❒ No

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Generally, a Website consists of different components and every component needs a different amount of resources to store and download. HTTP enables multiple connections to download separate components accordingly and then the transforming of data will be easy.

4.	Summarise the principles of analysis and design?	Satisfactory □ Yes □ No

Principle of analysis and design are like rules for the programming language. That principle helps us to build our own software and that principles also guides for creating a great code. Some of those principles are,

- S-ingle responsibility principles
- 0-pen/closed principle
- L-iskov substitution principle, etc.

5.	Briefly define steps to debug Java language programs?	Satisfactory □ Yes □ No

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Steps to debug the java program
- Firstly, we need to start the debugging the option
- Then we need to break the points in the source code
- Now we need to start the debugger by clicking the java application.
- Then in this step we need to execute the program which we are trying to debug.
- Finally, we need to control the display of the variables with detailed formatter.

6.	When a new session is created, what are the next steps that the CSP server does?	Satisfactory ☐ Yes ☐ No

Steps to be followed,
- Create a new session ID
- We need to create a new instance for the object.
- This step involves the on-start session method of the current session event class.
- And these are the steps that CSP server will do.

7.	Why does the web application need to be documented?	Satisfactory ❏ Yes ❏ No
	The web application needs to be documented so that we need to get the permission from the higher officials and some legal advisors. If any problem occurs in the future this documentation helps to solve the problem.	
8.	List ways to make web stateful (keeping information temporarily or permanently)?	Satisfactory ❏ Yes ❏ No

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Three ways to make web stateful,
- It should be continuous
- It should be meaningful

It should be dynamic

9.	In your own words, explain the procedure of web-based authentication in a server side programming language? Is there any security concern about the procedure?	Satisfactory ❒ Yes ❒ No

There are three steps for creating the web-based authentication in php and they include,
- Firstly, need to create a database with users table
- Secondly, we need to create user login panel to submit login details to php.
- Finally, we should compare user login details the user database.

Yes, we should have some security concerns for creating a authentication form that, the details entered in the form should store securely and no other stranger should access the users details.

10.	What is the difference between get and post method in HTTP?	Satisfactory ❒ Yes ❒ No

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Mainly HTTP Post supply's additional data form browser to server in message body where as GET will supply all the required data in the URL.

11.	What is the meaning of session in the context of web communications?	Satisfactory ❏ Yes ❏ No

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The time duration for which a user stays on a particular site until user closes the browser or move on to the new site is known as session.

12.	Explain why the web is considered stateless?	Satisfactory ❐ Yes ❐ No

The web is considered as stateless because a stateless protocol does not require any server to retain session information about each communications partner. HTTP is stateless and the truncation ends when the connection between browser and server is lost.

13.	Why security should be concerned?	Satisfactory ❐ Yes ❐ No

Security is one of the important components in every website. The users mainly trust the website based upon the security standards of the website. As every needs the privacy in the website it is important to concentrate on security while designing a website.

14.	What is object-oriented programming?	Satisfactory ❏ Yes ❏ No

Object-oriented programming is a programming language model which depends on objects and data in the form of fields.

15.	What is the benefit of using Objects in object-oriented programming?	Satisfactory ❏ Yes ❏ No

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Objects are used inside the classes and they are used for solving the problems using the classes. We can even create the new objects in the classes by creating new keywords.

16.	What is a variable? How is it used in the context of local, global, class and parameter data? Describe in detail and list the basic data types used for variables and constants.	Satisfactory ❐ Yes ❐ No

A variable is an unknown value which is used to represent the data in a program. It is of three types
- Local variable is a variable which is declared within the function.
- Global variable is a variable which is declared outside the function and can be accessed anywhere in the program.
- Class variable is a variable which is declared in a class and it is not an instance variable.

Basic data types used for variables and constants are,
- Floating-point constants.
- Enumerations
- Character constants
    Escape sequences, etc.

17.	What is a statement and what forms could it take in a program? What is a block and what is common way to identify this?	Satisfactory ❐ Yes ❐ No

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Statements are mainly used in the program to define the logic of the program and there are different types of statements which includes,

- Input statement
- Out put statement, etc.

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18.	If we consider calling a function or procedure as altering the sequential flow of a program. What are the other 2 mechanisms to achieve? Please describe with examples.	Satisfactory ❒ Yes ❒ No

The other two mechanisms include calling the function and retrieving the data form the database. Examples includes progress and compatibility.

19.	What is a function? What is the difference between a function and a procedure?	Satisfactory ❒ Yes ❒ No

A function is a piece of code which performs some operations and returns value. The functions will only have input values whereas procedures can have both input and output values. The function can be called from procedures but the procedures cannot be called form functions.

20.	If a module is a grouping of sub programs in procedural programming, what is a class in terms of object oriented programming?	Satisfactory ❒ Yes ❒ No

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A class is a program-code-template for creating objects and an object is an instance
of class and it also contains real values instead of variables.

Page

21.	What is an object?	Satisfactory ❏ Yes ❏ No

An object is the combination of data and procedures which works on available data
and these objects will be saved in the variables. These objects are created using
classes and a key word called 'new'.

22.	When considering object oriented programs what is meant by the terms encapsulation and inheritance?	Satisfactory ❏ Yes ❏ No

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Encapsulation is the process of wrapping the properties together as a single unit and it is one of the four fundamentals in oops concept. Whereas, inheritance is the process in OOP and the polymorphism is achieved through inheritance.

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Assessment 2 Result:	☐ Satisfactory		☐ Not Satisfactory	
Assessor Comments/Feedback on student's performance:				
Assessor: I declare that I have conducted a fair, valid, reliable and flexible assessment with this Student, and I have provided appropriate feedback	Assessor Name: _____ Signature: _____ Date: __/__/_____		Student: I declare that I have been assessed in this unit, in a fair and flexible manner.	Student Name: CACT RUTHVIK Signature: A·R-t Date 04 01, 2019

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VT257 Post Assessment Student Feedback Form

This form is to be completed by the student in order to gain feedback on the assessment and its process. This form will be completed upon the student gaining an overall assessment outcome per unit of competency. This form must be submitted to the Assessor. The student's feedback is important for ATMC's assessment validation and quality improvement processes.

Student Name:	SACI RUTHVIS	Date (do not leave empty)	07/01/2019
Unit Title & Code (do not leave empty)	ICTWEB503	Qualification Title (do not leave empty)	Diploma of IT

Instructions for Students: Please read each question carefully and then provide a comment for each including suggested improvements. We would appreciate any form of feedback in relation continuous improvement. If you require help in completing this form, please ask your assessor.

Overall Information for Assessment	Comments/ suggested improvement
1. Did you think you had enough instructions before starting the assessment? If no, please tell us how to improve it?	Yes
2. How did you find the level of language used and was it easy to read and understand?	Yes
3. Was enough time given to complete the assessment? If no, why?	Yes
4. Did you think the task/assessment was related to what you learnt in the unit - Rate from 1 (not at all) to 5 (very much) and explain why?	3
5. In order to do this assessment, did you expect any extra support? *Example: more time to complete an assessment.* If yes, please specify and note whether you received this support from your assessor	No
6. How relevant do you think the assessment task is for your (future) workplace? Rate from 1 (not at all) to 5 (very much).	3
7. How do you feel about the feedback you received from your assessor after you had finished your assessment?	Good
8. Please give any other feedback or continuous improvement regarding this assessment	

Office use only:
Did the student appeal the assessment decision?
- ☐ Yes
- ☐ No

Student appeal outcome (if applicable):
....
....
....

The feedback form must be submitted to the compliance department upon completion for tabulation and recording keeping purposes.

Signature: ...J.R... Date: 07/01/2019

ATMC– VT257 Post Assessment Student Feedback Form

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