



HIGHER EDUCATION PROGRAMMES

Academic Year 2024:	January - June
Formative Assessment 1:	Android App Development (HASD200-1)
NQF Level, Credit:	6, 10
Weighting:	40%
Assessment Type:	Project
Educator:	Luvuyo Ngcobo
Examiner:	Ralph Mavhunga
Due Date	28 March 2024
Total	50 Marks

Learning outcomes assessed in this assessment:

- Understand the impact of material design on the layout of the user interface on elements placed on the same sheet.
- Demonstrate use of if and switch statements
- Implement checkboxes and radio buttons
- Use different UI components
- Make use of click events

Instructions

1. Develop an application using Android Studio.
2. Test the complete application as per the Rubric requirements.
3. Include screenshots of your apps and source code in the provided **answer sheet** and submit it to Colcampus.

Question 1

[10 marks]

Develop an app that asks users to select their favourite type of music and then recommends a playlist based on their preference. The app should consider popular genres, artists, and songs from various regions worldwide. Utilise either an "if" or "switch" statement.

An example of input and output for the above question:

Input: The user selects "Pop" as their preferred genre of music.

Output: The app displays a playlist featuring popular pop artists such as Taylor Swift, Ed Sheeran, and Ariana Grande.

Rubric

Criteria	Possible Mark
The interface is aesthetically pleasing	2
The app should be running as expected	8
Mark	10

Chapters 4, 8, and 13

Learning outcomes:

- Understand the theory of material design, and the effects it has on the GUI.
- Demonstrate use of if and switch statements

Question 2

[20 marks]

Read Chapter 4 to Chapter 7 and Chapter 10 to Chapter 13 of your prescribed courseware and design an app that allows users to select one or more options from a group of checkboxes and radio buttons. When the user presses the Enter button, the selected options should be displayed below the button in a multiline text view.

Below are some additional requirements for the app:

- The app should use a layout file to define the UI components.
- The app should use checkboxes and radio buttons to allow users to select their preferences.
- When the Enter button is pressed, the app should display the selected options in a multiline text view.
- The app should handle cases with no options (a default message should be displayed if no options are chosen).
- The Java class should have get and set methods.

Rubric

Criteria	Possible Mark
The interface is aesthetically pleasing	2
The app should be running as expected	8
The Java class with get and set methods	10
Mark	20

Chapters 4 - 7 and Chapters 10 - 13

Learning outcomes:

- Understand the impact of material design on the layout of the user interface on elements
- Implement checkboxes and radio buttons
- Use different UI components

Question 3

[20 marks]

Scenario:

Imagine you are a software developer tasked with creating a simple Android exponent calculator app. The app's primary function is to calculate the result of raising one number to the power of another. This calculator will be used by students, professionals, and anyone needing quick exponentiation calculations.

Required:

Design a simple Android exponent calculator. The Android exponent calculator app's user interface (UI) and functionality should be user-friendly and efficient.

Rubric

Criteria	Possible Mark
Interface aesthetically pleasing	2
onCreate method allows the user to enter text 3 onClick method allows the user to view the result on a TextView 15	18
Mark	20

Chapters 2 - 7 and Chapters 10 - 13

Learning outcomes:

- Make use of click events