**VAAL UNIVERSITY OF TECHNOLOGY**

**FACULTY: APPLIED AND COMPUTER SCIENCE DEPARTMENT: SOFTWARE STUDIES**

**ASBDX3B – Development Software 3.1 Android ClassActivity September 2018**

**Total: 100 Marks Lecturer: S. Moyo MODERATOR: Mrs RT Mngoma**

Instructions:

* Use the Android IDE
* Start the virtual device in the IDE and ensure that it works.
* Create a new application and call it zzzzzAndroid, where zzzz is your student number.
* The source code for this question should be saved in the package: vut.Question2.zzzz, where zzzz is your surname.
* **Copy this project folder to the network drive after completion**

Code a mobile Android application with only the main activity using the following specifications:

Code **a MoviePatron** class to store the **name**, **age** and **seat preference** (front/back) of a patron. Code **constructors,** **set methods** and **get methods** for the instance variables. Code a **calcMoviePrice**() instance method to **calculate and return the price of a ticket**. The method **gets the day and the status** of the patron (Regular/not Regular). Make provision for invalid data that is entered by the user. If that is the case the price of the ticket must be zero rand and display an error message to the user. The price of a ticket is calculated **per age group**, **seat preference** and whether the patron is **a regular** or not as follows:

|  |  |  |
| --- | --- | --- |
| **Day of week** | **Age** | **Price** |
| Mon, Wed, Fri, Sat | <=18 | R320-00 |
|  | >18 | R360-00 |
| Sun, Tues | <=16 | R250-00 |
|  | >16 | R330-00 |
| Thurs | <=12 | R200-00 |
|  | >12 | R300-00 |

People with a seating preference **in fro**nt get 5, 7% discount on Fridays and Saturdays and 3% discount on Tuesdays, Wednesday and Thursdays. Regular patrons get a further discount of 2%.

Create the GUI in **Figure 1** for the application.

The patron details entry section consists of 2 edit Text: for the **name** and the **age** of the patron, 2 radio buttons and the button **Save patron** to create a patron object. The Front radio button is the default of the 2 radio buttons.

The ticket sale section consists of an edit text and checkbox. The user needs to enter the day of the wee k and check or uncheck the Regular patron checkbox and the click on the Calculate Ticket Price button to calculate the price of a ticket by calling the **calculateMoviePrice()** instance method of the MoviePatron class. The button then displays the name of the patron, the age , seating preference, the day and the price of the ticket.

