**CATHOLIC UNIVERSITY OF EASTERN AFRICA**
**FACULTY OF SCIENCE**
**DEPARTMENT OF COMPUTER AND INFORMATION SCIENCE**

**CMT 434 PYTHON FOR DATA SCIENCE**

**CONTINUOUS ASSESSMENT TEST**

Date: 21/11/2024 Time: 1 Hour

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**Instructions:**

All codes to be written in PYTHON.

This is group work.

Indicate the names and admission numbers of group members on the answer sheet

Name your answer sheet as Group [group Number] _Task3. E.g Group1_Task 3

Submit your work by uploading to Link provided in ODEL

**Task 3 (20 Marks)**

The attached CSV file (anlystics.csv) contains customer data from a certain store indicating whether customer purchased or declined a charismas gift humper, designed as a package for those visiting their relatives over the holidays. Download and use it to attempt the tasks below.

a) Write code that reads the file, determines and displays:
   i. the content in data frame format complete with column titles [2 marks]
   ii. the correlation between income bracket and decision [2 marks]
   iii. a line graph depicting the relationship between income bracket and decision [6 marks]

b) Write code that reads the file, determines and displays:
   i. the correlation between age and decision. [2 marks]
   ii. Based on the correlation, advice whether the data can be used for prediction or not. [2 marks]
   iii. Assume the correlation qualifies use of the data for prediction, write code that predicts whether the customer will purchase or decline based on age. The age should be input by the user. [6 marks]