Cairo University Data Analytics

Faculty of Computers and Artificial Intelligence Winter 2024

Operations Research and Decision Support Department Lab #3

**Mock Exam**

* Given the data in the excel workbook, perform each of the following steps carefully:
  1. Name the sheet “**Buying House**”
  2. Apply the formatting as follows:
     + Set column width for columns **A** to **25** and **B-I** to **15**
     + Use for all text and numbers font “**Comic Sans MS**” size **12**
     + Set number style to **English Pound** with **2 decimal places**
     + **Wrap** and **center** column titles
  3. Calculate the missing information (shaded areas) as indicated below:
     + Determine the **no. of payments (n)** based on the following:

- If House Type = Villa then **n** = 120

- If House Type = Town House then **n** = 84

- If House Type = Apartment then **n** = 60

* + - Determine the **Down Payment** based on the following:

- If Location = Tagamou3 then 30%\*Price

- If Location = Zayed then 25%\*Price

- If Location = Obour then 20%\*Price

* + - Calculate the **Loan Amount**:

**Loan Amount** = Price - Down Payment

* + - Calculate the **Monthly Payment**:

**Payment** = Monthly IR \* Loan Amount

1 - (1 + Monthly IR) n

* + - Calculate the **Interest**:

**Interest** = Monthly Payment \* No. of Payments - Loan Amount

* 1. Highlight the Monthly Payments **less than -2,500**
  2. Draw a **chart** including relevant **titles** for the chart and **axes** and **remove legends**:
     + A **3D Column chart** for **House Type** vs. **Monthly Payment**. Change **color of columns.**

* 1. Make two copies of the sheet:
     + Name the first copy “**Sort**”. Sort according to **House Type (ascending)** then by **Price (descending).**
     + Name the second copy “**Filter**”. Filter for houses located in **Obour** and with down payment **>= 90000**.