American University of Beirut

Department of Computer Science
CMPS 209
Lab Quiz-Duration 60 minutes

Name: **ID:**   **Room &Comp #:**

Instructions

- *Download the datafile from Moodle and save it on the local hard drive as Username.LQ1*
- *Save your work repeatedly.*
- *When you finish the quiz, make sure to save and upload your file on Moodle.*
- *You should return the exam paper before leaving the room.*

The datafile displays the schedule of different cruises from/to Miami, during the last four months of the current year. For each cruise, the following information is being shown: number of days, the departure date, the area where the cruise will be spent, the cruise line and the ship name. In addition, the cost of the cruise (Different Interior cabin costs and Outside cabin costs), and the rating of the ship are displayed.

The sheet "Solution" in your datafile contains a snapshot of the solution of the conditional formatting and functions and formulas questions. Refer to it frequently.

Exercise 1:   Conditional Formatting *(10pts)*

Open sheet "Schedule" in your Excel workbook.

Ship	Interior	Outside	Rating
Emerald	$679	$849	— 4
Sapphire	$399	$500	— 3.5
Sapphire	$319	$399	— 3.5
Emerald	$629	$759	— 4
Sapphire	$299	$379	— 3.5
Emerald	$629	$759	— 4
Sapphire	$319	$399	— 3.5
Sapphire	$299	$379	— 3.5
Sea Spirit	$465	$575	▲ 5
Emerald	$319	$399	— 4
Sea Spirit	$659	$819	▲ 5
Emerald	$289	$349	— 4
Sea Spirit	$465	$575	▲ 5
Stargaze	$725	$849	— 4.5
Aquamarine	$629	$759	▽ 3
Stargaze	$725	$849	— 4.5
Aquamarine	$679	$849	▽ 3
Stargaze	$725	$849	— 4.5
Aquamarine	$679	$849	▽ 3
Stargaze	$725	$849	— 4.5
Sea Spirit	$465	$575	▲ 5
Aquamarine	$679	$849	▽ 3
Emerald	$339	$449	— 4
Emerald	$289	$349	— 4
Aquamarine	$699	$869	▽ 3
Stargaze	$825	$1,200	— 4.5
Emerald	$289	$349	— 4

1)   Apply the "3 Triangles icon set" conditional formatting to the "Rating" column such that:

   a.   Rating 5 will be assigned a green triangle

   b.   Ratings 3.5, 4, and 4.5 will be assigned the yellow icon

   c.   Rating 3 will be assigned a red triangle. *(4pts)*

2)   Apply the corresponding conditional formatting to give all the ship names having cruises in "Central America" area a red bold italic font. *(6pts)*

Exercise 2:   Functions and Formulas

A discount on all "Interior" prices will be applied. However, the discount will be different for each cruise line (For example, Gem Cruises will give a 20% discount, while Sea Adventures will give a 15% discount as shown in the following table:)

Cruise Line	Interior Discount
Gem Cruises	20%
Sea Adventures	15%
Leisure Getaways	20%
Water World	10%

1) Using the discount table shown in cells: M7 to N10, insert in cell: J3, the appropriate function/formula to get the **Adjusted Interior Price** for the first cruise (the price after the discount based on the corresponding cruise line). (5pts)

- Copy the same formula/function to get the adjusted price for all other cruises in the same column. (3pts)

A recommendation message is to be displayed in column K as follows:

- – **Recommended** - if the rating of the ship is greater or equal to 4.5

- – **Acceptable** - if the rating is between 3 and 4.5 exclusively (not including 3 and 4.5)

- – **Not Recommended** - otherwise

2) Insert in cell K3, the needed function to get the recommendation message for the first cruise. Copy the same message to all other cruises. (6pts)

Adjusted Interior Price	Recommendation
$543.20	Acceptable
$319.20	Acceptable
$255.20	Acceptable
$503.20	Acceptable
$239.20	Acceptable
$503.20	Acceptable
$255.20	Acceptable
$239.20	Acceptable
$395.25	Recommended
$255.20	Acceptable
$560.15	Recommended
$231.20	Acceptable
$395.25	Recommended
$580.00	Recommended
$503.20	Not Recommended
$580.00	Recommended
$543.20	Not Recommended
$580.00	Recommended
$543.20	Not Recommended
$580.00	Recommended
$395.25	Recommended
$543.20	Not Recommended
$271.20	Acceptable
$231.20	Acceptable
$559.20	Not Recommended
$660.00	Recommended
$231.20	Acceptable

Fill in the "**Table of Statistics**" with suitable excel functions/formulas to answer the following questions:

3) How many cruises are displayed in the schedule? (4pts)

4) What are the highest Interior and highest Outside costs? (Refer to the snapshot) (7pts)

5) How many cruises days will be spent over the "Sea Spirit" ship in the "Central America Area"? (6pts)

Statistical Table	
How many cruises are displayed in the schedule?	27
What are the highest Inerior and Outside costs?	Interior: 825$; Outside: 1200$
How many cruises days will be spent over the "Sea Spirit" Ship in the Central America Area?	21
Is the average rating of ships of "Gem Cruises" lines greater than the average rating of "Sea Adventures" lines?	No
What ship will have the most expensive outside cost?	Stargaze

6) Is the average rating of ships of "Gem Cruises" lines greater than the average rating of "Sea Adventures" lines? (8pts)

7) What ship will have the most expensive outside cost? (8pts)
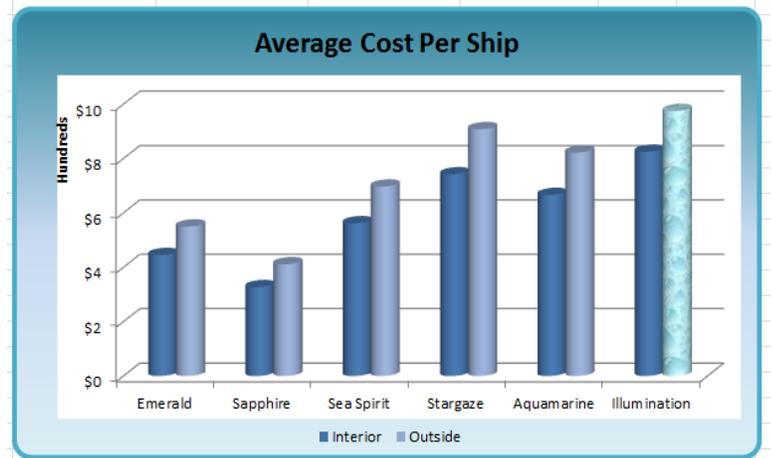
"Number of Cruises Per Line" table (M16:O19)

8) Insert in cell O17 the corresponding function (that should be copied to cells O18 and O19) to get the number of cruises that will be done by "Gem Cruises" lines over ships with rating greater than or equal to 3.5. (6pts)

    *   Copy the same function to O18 and O19 (4pts)

Number of Cruises Per Line		
Cruise Line	Rating >=	Number of Cruises
Gem Cruises	3.5	13
Sea Adventures	4	4
Leisure Getaways	4	5

Exercise 3:   Charts (13pts)

Open the sheet "Charts" in your workbook. The table contains the average Interior and Outside prices for each ship.

1) Plot a clustered cylinder chart to display the Interior and Outside prices for all the ships (5pts)

2) Format your chart as shown below: (8pts)

    *   Pay attention to the title, axis, chart area, plot area, data series, borders, legend…

Exercise 4:   Sorting and Filtering (20pts)

1) Open sheet: "Sorting1" in your workbook. Sort the records by the Ship name in ascending alphabetical order, and then by the Interior cost in descending order. (5pts)

2) Open sheet: "Sorting 2" in your workbook and sort the records by the Cruise Line in the following order: Gem Cruises, Water World, Leisure Getaways, Sea Adventures. (5pts)

3) Open sheet "Filtering1" in your workbook. Filter the records to display all the cruises over "Emerald" ship with an interior price above the average price. (5pts)

4) Open sheet "Filtering2" in your workbook to display only the cruises happening in the current month. (5pts)

Save your work, and upload your file on Moodle.

Good Luck ☺