

**FIT1013 Digital Futures: IT for Business**  
**Assignment 1 (10%)**

**Submission Deadline: Wednesday, 25 August 2021, 5:00 PM**

**Learning Objectives**

- By completing this assignment, students will be able to perform data analysis and data visualisation using Excel, these include creating a structured range of data using a PivotTable, Excel formulas and functions. This is an individual assignment, no group work will be permitted.

**Submission Requirements**

- Your assignment should be submitted to Moodle/Turnitin.
- The file names should contain Unit Code, assignment number and your student ID number, similar to the example: FIT1013A1\_StudentID.xlsx where StudentID is your student ID.

**Late Submissions:**

- Late submissions will be penalised as stated in the submission link in Moodle.

**Scenario**

SSS (Simon's Smart Home Service) is a new start-up in Victoria that sells and installs smart home products, as well as providing home automation services and supports. Your friend, Simon working in SSS, regularly creates reports about the business operations. Given the data file (FIT1013 A1\_2021 Data.xlsx in Moodle), he would like you to use Excel functions and features to help him analyse the data and make the file more user-friendly for him in future analysis and data visualisations.

1. To understand better about the data, you would like to do a quick analysis using simple Excel functions to get the number of hours worked for each type of service, similar to the following table. You will do this on a separate worksheet without messing up the original data.

Table 1: Quick Analysis

Job Type	Number of jobs done	Number of hours spent
Smart Home		
Security Camera		
Smart Doorbell		
Smart Lighting		
Smart Locks		
Smart Locks (urgent)		
Smart Locks (services)		
Total		

2. A separate worksheet with the headers from the given data file (i.e. StaffID, Date, Hours, Job Type) to allow selectively view the data dynamically, e.g. only show records from a certain month, a certain technician, and so on. Also sort the data e.g. sort the type of job and hours worked. For the selected data, show the total hours worked in the last row. (For assessment purposes, implement the filter and sorting as shown in the following figure).

A	B	C	D
StaffID	Date	Hours	Job Type
5074	Sunday, 18 April 2021	1.5	Security Camera
5788	Sunday, 18 April 2021	1.5	Security Camera
5934	Sunday, 18 April 2021	1.5	Security Camera
5074	Thursday, 22 April 2021	2	Smart Doorbell
5788	Thursday, 22 April 2021	2	Smart Doorbell
5074	Thursday, 29 April 2021	2	Smart Doorbell
5788	Thursday, 29 April 2021	2	Smart Doorbell
5788	Sunday, 25 April 2021	4	Smart Home
5934	Wednesday, 21 April 2021	3	Smart Home
5074	Wednesday, 28 April 2021	2	Smart Home
5074	Friday, 30 April 2021	2	Smart Home
5074	Saturday, 17 April 2021	1	Smart Home
5788	Saturday, 17 April 2021	1	Smart Home
5934	Saturday, 17 April 2021	1	Smart Home
5788	Tuesday, 27 April 2021	2	Smart Lighting
<b>Total</b>		<b>28.5</b>	

Figure 1: Selected and sorted data

3. Once you have done the quick analysis on the data, you want to create a user-friendly worksheet for Simon that allows him to navigate and visualise the data easily. You will use a pivot table and a pivot chart to show his data so that he can quickly identify any trends or patterns from his data. He is not fussy about the types of charts, so you will decide that for him. He wants to see the number of hours worked by each technician, for each month, and for each job. To improve usability, you will create slicers that can be used to filter the data in pivot table and pivot chart:
  - i. View the number of hours worked by technician
  - ii. View the number of hours worked by month
  - iii. View the number of hours worked by job
4. Simon also wanted to check if any of the technicians are overloaded or underloaded. His calculation is based on the following table.

Table 2: Workload-Status table

Number of hours worked per week	Status
17.5 and below	Need more work
17.6 – 25	Underload
25.1 – 37.5	Normal
37.6 and above	Overloaded

He is asking you to create a new worksheet (similar to the following table), where he can input the number of hours worked (column 2), then a status will be shown automatically in column 3. You need to construct an Excel formula in the status column to determine the workload of his technicians. These formulas can be copied to subsequent cells without modifications. When the formula is copied to the rows with an empty record (no Number of hours worked per week), it should show blank.

Table 3: Technicians Workload

StaffID	Number of hours worked per week	Status
<i>Example:</i> 3041	28.75	<i>Normal</i>
9839		
5074		
5788		
9045		
5934		

5. Simon also wants the workbook to be user-friendly, e.g. overall presentation of data, design and format of outputs are easy to read and use. You can add a brief instruction in the Document worksheet to describe how to use this workbook.

### Assessment Criteria

See marking rubric in Moodle.

Tasks	Marks	Descriptions
1	2	New worksheet, use appropriate functions, correct references and value.
2	2	New worksheet, correct table, correct value (filter & sort).
3	2	New worksheet, appropriate pivot table and chart, correct slicers, correct values.
4	2	Correct value, use appropriate functions with correct attributes. Effective use of functions, e.g. require minimum maintenance, correct nested functions.
5	2	Document worksheet completed. Overall correct format and appropriate presentations.
<b>Total</b>	<b>10</b>	