# Distinction Task 1

Submission Process

- Create a file named **DTASK1.PDF** where 9999 is the last 4 digits of your student ID. This is a PDF of the file named **DTASK1**.**DOCX** described below**.**
- This file will contain screen shots described in this document.
- Log into Doubtfire and submit this file into the appropriate **DTASK1** task in Doubtfire.
- Note: The screen shots required for this document will come from a Power BI file that you create. While you do not have to submit the Power BI file, **you must save and keep the Power BI file with all the visualisations that you have created.** Your tutor may request for you to submit a copy of the Power BI file for closer inspection.
- You must to complete **all** of the requirements 1-5 to achieve a satisfactory grade.
- You **need** to complete **all** of the requirements 1-7 to achieve an excellent grade.

Requirement 1

- Use **PowerBI Desktop** to get the data from all tables in the Access database.
- Create the following visualizations:
    1. A table visualization that displays the number of jobs allocated to each worker name
    2. A Stacked column chart visualization that displays the total payments by month.
    3. A clustered bar chart visualizatioCun that displays payments for each service description
    4. Any visualization that you like that displays the top 5 suburbs by total payments. Show suburb name and total payments.
- Place these four visualizations on a single report/screen. Also display your name and student id as a heading on the report in the **top left** corner (Your data values may differ).
- **Screen Capture** the visualizations (similar to the image below).
- Paste the screen capture in the appropriate position in the document named **DTASK1.DOCX**
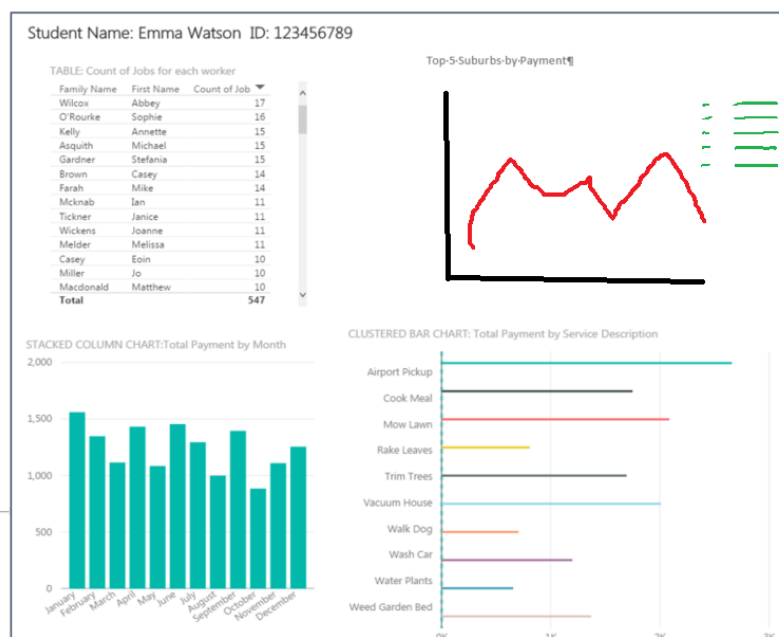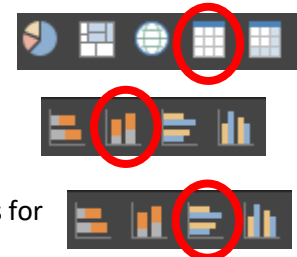
Requirement 2

- Create a **new column** in the **customer** table to combine customer id, surname and firstname.
- Create a **Matrix** visualisation that displays total jobs by Customer and Year.
- **Screen Capture** the Matrix visualization (similar to the image below – note the values may differ).
- Paste the screen capture in the appropriate position in the document named **DTASK1.DOCX**

Total Jobs by Customer				
ID-Name	2013	2014	2015	...▼
4428 Daniel Cimitiere	7	22	10	39
2067 Xavier Coburn	9	20	9	38
2817 Jack Moyes	11	16	11	38
1132 Benjamin Kumm	8	19	8	35
3921 Oliver Barber	7	16	10	33

Requirement 3

- Currently, the customer table contains a column named ContactType. Values are B,E,N,S.
- These codes have the following descriptions.

ContactType	Description
E	eMail only
B	Both SMS and eMail
S	SMS only
N	None

- **Create a visualization** that displays the total number of customers that belongs to each of these contact descriptions. Add appropriate headings etc.
- **Screen capture** the visualization.
- Paste the screen captures in the appropriate position in the document named **DTASK1**.**DOCX**
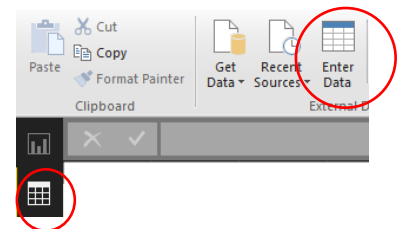
Requirement 4

- **Create any 3 additional visualizations** that you wish.
- The visualizations must show a degree of inventiveness (i.e. turning a previously used pie chart into a line chart or bar chart does not show any inventiveness at all).
- If necessary, you may create additional columns, tables, slicers, and/or functions.
- Ensure that each visualization has an appropriate heading that describes its purpose, named data axis, legend etc.
- **Screen Capture** each of the visualizations.
- Paste the screen captures in the appropriate position in the document named **DTASK1.DOCX**

Requirement 5

- Take a screen capture of the Power BI **Relationship Manager** screen that displays all tables and the relationships between the tables.
- Paste the screen captures in the appropriate position in the document named **DTASK1**.**DOCX**

Requirement 6

- Create a **new column** called **CustAge** in the customer table that calculates each customer's current age in years.
    - You may want to use the DateDiff() and Today() in your calculation.
    - A person born on 16/06/1989 would currently have an age of 27 (based on 1 April 2017)
- Create a **new column** called **CustAgeGroup**. This requires a formula based on CustAge. The formula will do the following:
    - Assign the value 0 for any person who is between 0 and 9 years old
    - Assign the value 1 for any person who is between 10 and 19 years old
    - Assign the value 2 for any person who is between 20 and 29 years old
    - …
    - Assign the value 9 for any person who is between 90 and 99 years old
    - *Note: You may assume that no-one is over 99 years old in the data provided)*
    - *Example: If the Age is 47 then the CustAgeGroup value for this record in 4.*
- Select the Enter Data in the Data window of Power BI
- Create a table named **AgeGroups9999** (where 9999 is the last 4 digits of your student ID).
- The table must have two columns named AgeCode and AgeDescription.
- The example data must be entered into the table.

- The table must be added into the **relationships** with a M:1 relationship between CustAgeGroup and AgeCode.
- Finally, create a **Donut Chart** visualization that displays the number of customers in each Age Group.
- Add headings and appropriate legend to the visualization.
- **Screen Capture** the **AgeGroups9999** table and all the rows in it.
- **Screen Capture** the **Donut Chart** visualization.
- Paste the screen captures in the appropriate position in the document named **DTASK1.DOCX**

AgeCode	AgeDescription
0	Age 0-9
1	Age 10-19
2	Age 20-29
3	Age 30-39
4	Age 40-49
5	Age 50-59
6	Age 60-69
7	Age 70-79
8	Age 80-89
9	Age 90-99

Requirement 7

- Add an **additional column** to the **customer** table in Power BI.
- This column must be a single string the combines the suburb name, postcode and the text "Victoria, Australia".
- Use this additional column in the creation of a **map visualization** that displays **total jobs** by **customer location** (see example below)
- **Screen Capture** the Map visualization that shows the 10-20 suburbs where the suburb with the **largest** total jobs value is roughly centred in the map.
- Paste the screen capture in the appropriate position in the document named **DTASK1.DOCX**