

# Traffic Accidents

## Data cleaning and analyzing using excel

### Data cleaning:

- After uploading the data, I started exploring it and checking for:
- Non values /nan
- Blanks
- Duplicates
- Check the spellings

### As shown in pics below:

| Clipboard      | Font           | Alignment   | Number                   | Styles                  | Cells                | Editing   |                       |                        |                      |           |     |
|----------------|----------------|-------------|--------------------------|-------------------------|----------------------|-----------|-----------------------|------------------------|----------------------|-----------|-----|
| A              | B              | C           | D                        | E                       | F                    | G         | H                     | I                      | J                    | K         | Num |
| Accident_Index | Accident_Index | Day_of_Week | Junction_Control         | Junction_Detail         | Accident_Seriousness | Latitude  | Light_Condition       | Local_Authority_(LTA)  | Carriageway_Has_Lane | Longitude | Num |
| 200901BS70001  | 1/1/2021       | Thursday    | Give way or uncontrolled | T or staggered junction | Serious              | 51.512273 | Daylight              | Kensington and Chelsea | None                 | -0.201349 |     |
| 200901BS70002  | 1/5/2021       | Monday      | Give way or uncontrolled | Crossroads              | Serious              | 51.514399 | Daylight              | Kensington and Chelsea | None                 | -0.199248 |     |
| 200901BS70003  | 1/4/2021       | Sunday      | Give way or uncontrolled | T or staggered junction | Slight               | 51.486668 | Daylight              | Kensington and Chelsea | None                 | -0.179599 |     |
| 200901BS70004  | 1/5/2021       | Monday      | Auto traffic signal      | T or staggered junction | Serious              | 51.507804 | Daylight              | Kensington and Chelsea | None                 | -0.20311  |     |
| 200901BS70005  | 1/6/2021       | Tuesday     | Auto traffic signal      | Crossroads              | Serious              | 51.482076 | Darkness - lights lit | Kensington and Chelsea | None                 | -0.173445 |     |
| 200901BS70006  | 1/1/2021       | Thursday    | Give way or uncontrolled | T or staggered junction | Slight               | 51.493415 | Daylight              | Kensington and Chelsea | None                 | -0.185525 |     |
| 200901BS70007  | 1/8/2021       | Thursday    | Give way or uncontrolled | T or staggered junction | Serious              | 51.480177 | Daylight              | Kensington and Chelsea | None                 | -0.178561 |     |
| 200901BS70008  | 1/2/2021       | Friday      | Auto traffic signal      | Crossroads              | Slight               | 51.491957 | Daylight              | Kensington and Chelsea | None                 | -0.178524 |     |
| 200901BS70009  | 1/7/2021       | Wednesday   | Give way or uncontrolled | T or staggered junction | Slight               | 51.49646  | Daylight              | Kensington and Chelsea | None                 | -0.167395 |     |
| 200901BS70010  | 1/10/2021      | Saturday    | Auto traffic signal      | Crossroads              | Slight               | 51.48115  | Daylight              | Kensington and Chelsea | None                 | -0.183275 |     |
| 200901BS70011  | 1/7/2021       | Wednesday   | Auto traffic signal      | Crossroads              | Slight               | 51.482076 | Darkness - lights lit | Kensington and Chelsea | None                 | -0.173445 |     |
| 200901BS70012  | 1/7/2021       | Wednesday   | Auto traffic signal      | Crossroads              | Slight               | 51.494995 | Darkness - lights lit | Kensington and Chelsea | None                 | -0.183013 |     |
| 200901BS70013  | 1/7/2021       | Wednesday   | Auto traffic signal      | Crossroads              | Slight               | 51.498778 | Daylight              | Kensington and Chelsea | None                 | -0.206779 |     |
| 200901BS70014  | 1/7/2021       | Wednesday   | Auto traffic signal      | Crossroads              | Slight               | 51.506187 | Daylight              | Kensington and Chelsea | None                 | -0.209082 |     |
| 200901BS70015  | 1/7/2021       | Wednesday   | Auto traffic signal      | Crossroads              | Slight               | 51.493077 | Daylight              | Kensington and Chelsea | None                 | -0.169548 |     |
| 200901BS70016  | 1/7/2021       | Wednesday   | Auto traffic signal      | Crossroads              | Serious              | 51.482076 | Darkness - lights lit | Kensington and Chelsea | None                 | -0.173445 |     |
| 200901BS70017  | 1/7/2021       | Wednesday   | Auto traffic signal      | Crossroads              | Slight               | 51.488673 | Darkness - lights lit | Kensington and Chelsea | None                 | -0.169724 |     |
| 200901BS70018  | 1/7/2021       | Wednesday   | Auto traffic signal      | Crossroads              | Slight               | 51.482363 | Darkness - lights lit | Kensington and Chelsea | None                 | -0.186108 |     |
| 200901BS70019  | 1/7/2021       | Wednesday   | Auto traffic signal      | Crossroads              | Slight               | 51.49391  | Daylight              | Kensington and Chelsea | None                 | -0.176861 |     |
| 200901BS70020  | 1/7/2021       | Wednesday   | Auto traffic signal      | Crossroads              | Slight               | 51.509296 | Darkness - lights lit | Kensington and Chelsea | None                 | -0.194837 |     |
| 200901BS70021  | 1/7/2021       | Wednesday   | Auto traffic signal      | Crossroads              | Slight               | 51.50228  | Darkness - lights lit | Kensington and Chelsea | None                 | -0.188919 |     |
| 200901BS70022  | 1/22/2021      | Thursday    | Give way or uncontrolled | T or staggered junction | Slight               | 51.507588 | Darkness - lights lit | Kensington and Chelsea | None                 | -0.194905 |     |
| 200901BS70027  | 1/31/2021      | Saturday    | Auto traffic signal      | Crossroads              | Serious              | 51.488585 | Daylight              | Kensington and Chelsea | None                 | -0.193063 |     |

Find and Replace

Find

Replace

Find what:

Auto traffic sigl

Replace with:

Auto traffic signal

Options >>

Replace All

Replace

Find All

Find Next

Close

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## Data cleaning and analyzing using excel

The screenshot shows an Excel spreadsheet with the following data:

|   | A              | B             | C           | D                | E                        | F                         | G        | H               | I                   | J                  |      |
|---|----------------|---------------|-------------|------------------|--------------------------|---------------------------|----------|-----------------|---------------------|--------------------|------|
|   | Accident_Index | Accident Date | Day_of_Week | Junction_Control | Junction_Detail          | Accident_Severity         | Latitude | Light_Condition | Local_Authority     | Carriageway        |      |
| 1 | 10197          | 2.01E+12      | 5/2/2021    | Saturday         | Give way or uncontrolled | Other junction            | Slight   | 53.368167       | Daylight            | Cheshire East      | none |
|   | 55164          | 2.01E+12      | 5/2/2021    | Saturday         | Data missing or out of   | Not at junction or within | Slight   | 56.065596       | Darkness - lighting | Fife               | none |
|   | 56811          | 2.01E+12      | 6/19/2021   | Friday           | Data missing or out of   | Not at junction or within | Serious  | 55.973216       | Daylight            | Edinburgh, City of | none |

The 'Find and Replace' dialog box is open, showing 'Find what: none' and 'Replace with: none'. The 'Microsoft Excel' status bar message says 'All done. We made 3 replacements.'

## 2- Data transforming

|    | Get External Data |               | Get & Transform |                  | Connections | Sort & Filter            |
|----|-------------------|---------------|-----------------|------------------|-------------|--------------------------|
|    | A                 | B             | C               | D                | E           |                          |
| 1  | Accident_Index    | Accident Date | Month           | Year             | Day_of_Week | Junction_Control         |
| 2  | 200901BS70001     | 1/1/2021      | Jan             | =TEXT(B2,"yyyy") | Thursday    | Give way or uncontrolled |
| 3  | 200901BS70002     | 1/5/2021      | Jan             | 2021             | Monday      | Give way or uncontrolled |
| 4  | 200901BS70003     | 1/4/2021      | Jan             | 2021             | Sunday      | Give way or uncontrolled |
| 5  | 200901BS70004     | 1/5/2021      | Jan             | 2021             | Monday      | Auto traffic sign        |
| 6  | 200901BS70005     | 1/6/2021      | Jan             | 2021             | Tuesday     | Auto traffic sign        |
| 7  | 200901BS70006     | 1/1/2021      | Jan             | 2021             | Thursday    | Give way or uncontrolled |
| 8  | 200901BS70007     | 1/8/2021      | Jan             | 2021             | Thursday    | Give way or uncontrolled |
| 9  | 200901BS70008     | 1/2/2021      | Jan             | 2021             | Friday      | Auto traffic sign        |
| 10 | 200901BS70009     | 1/7/2021      | Jan             | 2021             | Wednesday   | Give way or uncontrolled |
| 11 | 200901BS70010     | 1/10/2021     | Jan             | 2021             | Saturday    | Auto traffic sign        |
| 12 | 200901BS70011     | 1/7/2021      | Jan             | 2021             | Wednesday   | Auto traffic sign        |
| 13 | 200901BS70012     | 1/16/2021     | Jan             | 2021             | Friday      | Auto traffic sign        |
| 14 | 200901BS70015     | 1/12/2021     | Jan             | 2021             | Monday      | Data missing or out of   |

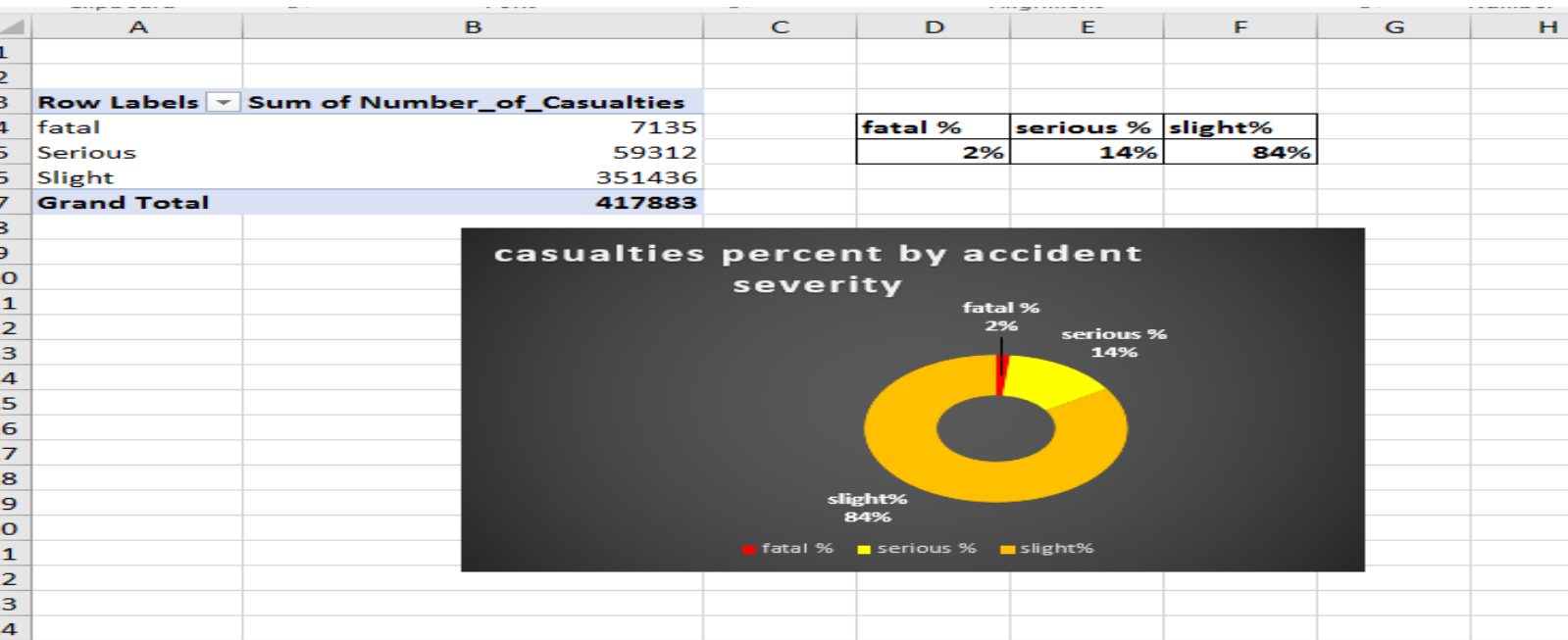
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|   | A                     | B                    | C               | D           |
|---|-----------------------|----------------------|-----------------|-------------|
| 1 | <b>Accident_Index</b> | <b>Accident Date</b> | <b>Month</b>    | <b>Year</b> |
| 2 | 200901BS70001         | 1/1/2021             | =TEXT(B2,"mmm") |             |
| 3 | 200901BS70002         | 1/5/2021             | Jan             | 2021        |
| 4 | 200901BS70003         | 1/4/2021             | Jan             | 2021        |
| 5 | 200901BS70004         | 1/5/2021             | Jan             | 2021        |
| 6 | 200901BS70005         | 1/6/2021             | Jan             | 2021        |

### 3-Data analyzing:

| A                  | B                                  | C | D        | E         | F   | G | H | I | J | K | L | M | N | O | P |
|--------------------|------------------------------------|---|----------|-----------|---|---|---|---|---|---|---|---|---|---|---|
|                    |                                    |   |          |           |   |   |   |   |   |   |   |   |   |   |   |
| <b>Row Labels</b>  | <b>Sum of Number_of_Casualties</b> |   | fatal %  | serious % | slight%   |   |   |   |   |   |   |   |   |   |   |
| fatal              | 7135                               |   | 1.707416 | 0.141934  | =GETPIVOTDATA("Number_of_Casualties",\$A\$3,"Accident_Severity","Slight")/GETPIVOTDATA("Number_of_Casualties",\$A\$3) |   |   |   |   |   |   |   |   |   |   |
| Serious            | 59312                              |   |          |           |   |   |   |   |   |   |   |   |   |   |   |
| Slight             | 351436                             |   |          |           |   |   |   |   |   |   |   |   |   |   |   |
| <b>Grand Total</b> | <b>417883</b>                      |   |          |           |   |   |   |   |   |   |   |   |   |   |   |



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### 4- Building Dashboard to show the insights by excel:

