# Data Analysis Using Spreadsheets (Worksheet: 100 Points)
## Write your answer along with each question and save your file

Name: _____

## 1. Open Cities.csv file in MS Excel.
Task # 1: How many cities information does the file contain? [10 points]

## 2. Inserting and deleting rows
Insert then delete: Palo Alto, USA, 37.44, 122.14, 14.75

## 3. Inserting columns
- Add Fahrenheit column to Left of temperature (position your cursor at temperature and then press Insert and then columns.)
    Formulas
    =(f2 * 9/5) + 32
The first two cells should be
    7.52 = 45.54
    8.1 = 46.58
    Autofill the remainder cells. Home->Editing->Autofill Down (see picture below)



- Task # 2: Create a Column named Celsius to the right of Fahrenheit and type in the formula =(e2 – 32) * 5/9 [25 points]

## 4. Deleting columns
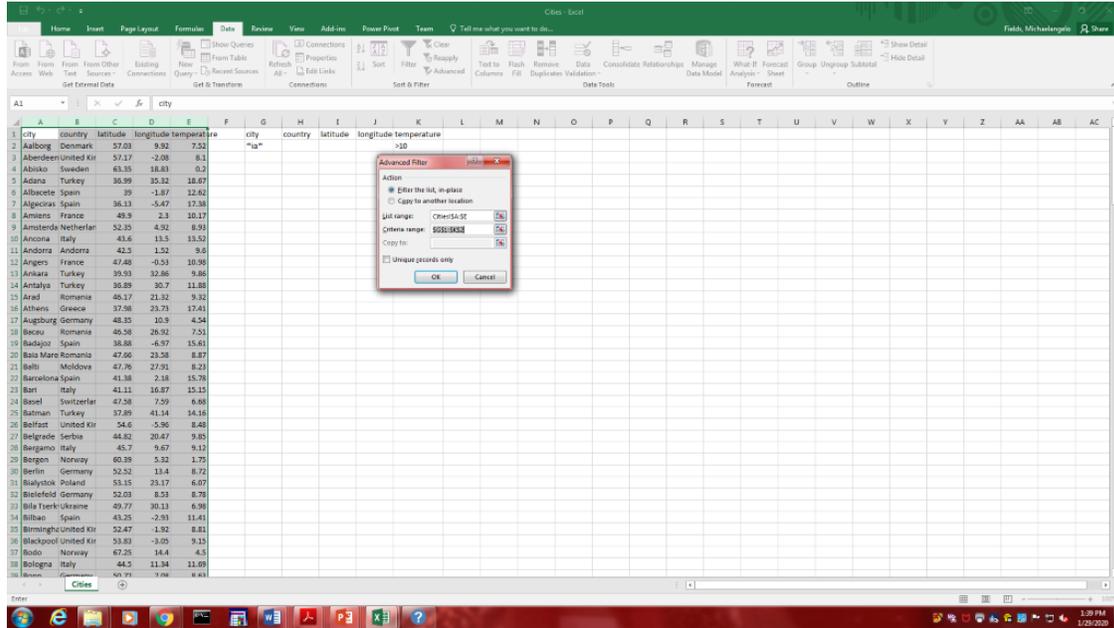Delete Fahrenheit and Celsius columns

## 5. Sorting
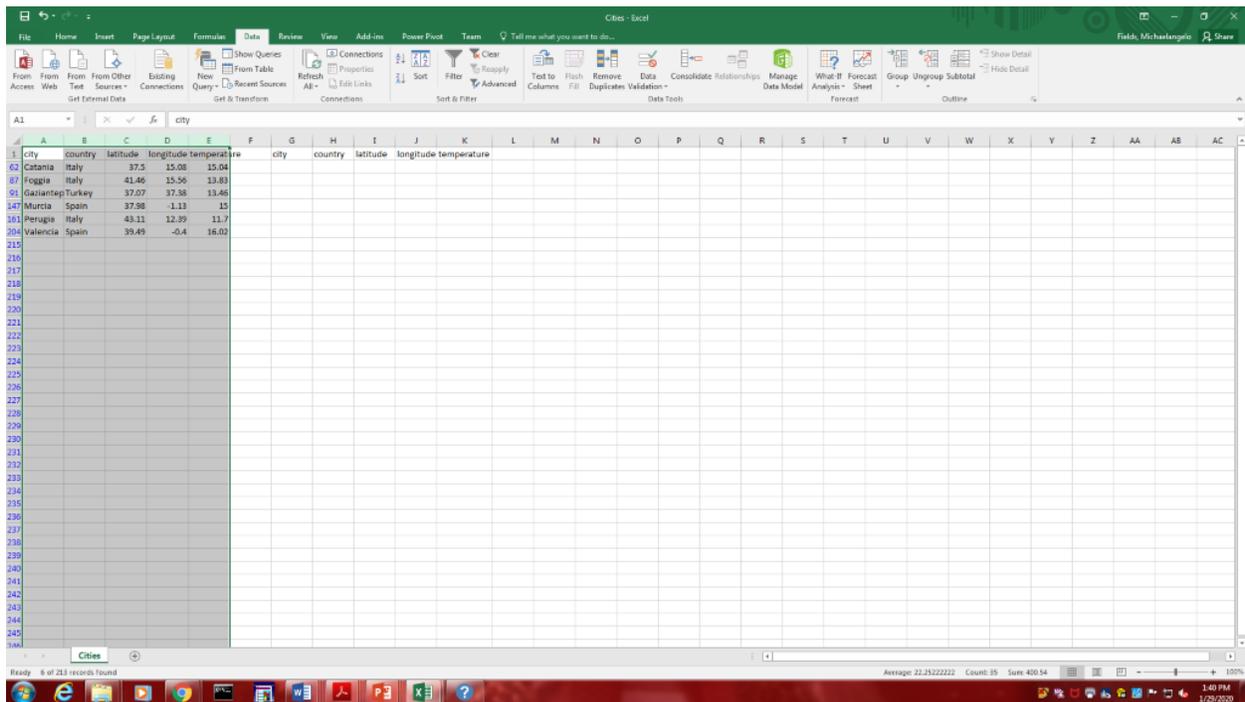- Select temperature column, Data-> A-Z, expand selection, undo

- Select entire sheet, Data-> sort ->, by temperature, then by country + latitude descending

## 6. Filtering
- Select entire sheet, Data -> Sort & Filter -> Advanced

To filter by condition: temperature greater than 10, then city contains "ia", set the following criteria in cells G1 to K2 (view picture below)



3. After pressing ok, you should see the below filtered data

- Undo the above step
- Task # 3: Filter all the records where the country starts with N. [25 points]
- Undo the above step

## 7. Aggregation
- Average temperature =average(e2:e11), then =average(e2:e214), then =average(e:e)
- Maximum latitude, minimum longitude =max(c:c), =min(d:d)
- Number of longitudes less than 0 =countif(d:d ,"<0")
- Task # 4: How many cities with temperature > 10? [25 points]

## 8. Grouped aggregation
- Average temperature for cities with latitude > 60 =averageif(c:c,">60",e:e)
- Average temperature for cities with latitude < 60 =averageif(c:c,"<60",e:e)
- Task # 5: What is the average latitude for cities with temperature < 10. [15 points]