

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)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	city	country	latitude	longitude	fahrenheit	temperature													
2	Aalborg	Denmark	57.03	9.92	45.536	7.52													
3	Aberdeen	United Kin	57.17	-2.08	46.58	8.1													
4	Abisko	Sweden	63.35	18.83	32.36	0.2													
5	Adana	Turkey	36.99	35.32	65.606	18.67													
6	Albacete	Spain	39	-1.87	54.716	12.62													
7	Algeciras	Spain	36.13	-5.47	63.284	17.38													
8	Amiens	France	49.9	2.3	50.306	10.17													
9	Amsterdai	Netherlan	52.35	4.92	48.074	8.93													
10	Ancona	Italy	43.6	13.5	56.336	13.52													
11	Andorra	Andorra	42.5	1.52	49.28	9.6													
12	Angers	France	47.48	-0.53	51.764	10.98													
13	Ankara	Turkey	39.93	32.86	49.748	9.86													
14	Antalya	Turkey	36.89	30.7	53.384	11.88													
15	Arad	Romania	46.17	21.32	48.776	9.32													
16	Athens	Greece	37.98	23.73	63.338	17.41													
17	Augsburg	Germany	48.35	10.9	40.172	4.54													
18	Bacau	Romania	46.58	26.92	45.518	7.51													
19	Badajoz	Spain	38.88	-6.97	60.098	15.61													
20	Baia Mare	Romania	47.66	23.58	47.966	8.87													

- 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

city	country	latitude	longitude	temperature
Catania	Italy	37.5	15.03	15.04
Foggia	Italy	41.46	15.56	13.83
Gaziantep	Turkey	37.07	37.38	13.46
Murcia	Spain	37.98	-1.13	15
Perugia	Italy	43.11	12.39	11.7
Valencia	Spain	39.49	-0.4	16.03

- 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]**