TEST TABLE

FILE INPUT

Test	Test description/condition	Test Data/Values	Expected output	Pass/Fail
1	Program reads text file 'met_index.txt' containing list of csv files and reads them in successfully before displaying the menu. The program also recognises any duplicates and notifies the user.	met_Index.txt file with files: MetData_Jan01-2010-Jan01-2011-ALL.csv MetData_Jan01-2011-Jan01-2012-ALL.csv MetData_Jan01-2012-Jan01-2013-ALL.csv MetData_Jan01-2013-Jan01-2014-ALL.csv MetData_Mar01-2014-Mar01-2015-ALL.csv MetData_Mar01-2015-Mar01-2016-ALL.csv Metdata-Jan-Dec2007.csv Metdata-Jan-Dec2008.csv Metdata-Jan-Dec2009.csv Metdata-Jan-Dec2016.csv	Lists files being read with duplicate detection messages (if applicable) and successful message before displaying the main menu.	Pass
2	Program terminates after trying to read in text file 'met_index.txt' that contains no readable files.	met_Index.txt file with NO files contained.	PROGRAM CONTAINS NO DATA! Program will exit...	Pass
3	Program terminates trying to read text file met_Index.txt that does not exist or can't be read.	Changed met_Index.txt to "met.txt"	TEXT FILE met_index.txt NOT FOUND! Program will exit...	Pass
4	Program attempts to read in a file that cannot be opened or does not exist before displaying the menu.	met_index.txt file with files: MetData_Jan01-2010-Jan01-2011-ALL.csv MetData_Jan01-2011-Jan01-2012-ALL	READING data/MetData_Jan01-2010-Jan01-2011-ALL.csv... WARNING: data/MetData_Jan01-2011-Jan01-2012-ALL NOT FOUND! WEATHER DATA LOADED SUCCESSFULLY!	Pass

MAIN MENU

Test	Test description/condition	Test Data/Values	Expected output	Pass/Fail
5	Enter '1' to test valid option.	1	You have selected 1. Please enter a month (must be numeric. i.e. 1 for January):	Pass
6	Enter '5' to test new valid option.	5	You have selected 5. Enter a date in the form d/m/yyyy:	Pass
*7	Enter '6' to test new exit option.	6	You have selected 6. Program will now exit...	Pass
8	Enter '2' to test valid option	2	You have selected 2. Please enter a year:	Pass
9	Enter '3' to test valid option	3	You have selected 3. Please enter a year:	Pass
10	Enter '4' to test valid option	4	You have selected 4. Please enter a year:	Pass
11	Enter '0' to test lower boundary of acceptable numerical input	0	Your selection: 0 INVALID INPUT! Please try again.	Pass
12	Enter '7' to test upper boundary of acceptable numerical input	7	Your selection: 7 INVALID INPUT! Please try again.	Pass
13	Enter '2abc' to test valid input.	2abc	Your selection: 2abc INVALID INPUT! Please try again.	Pass
14	Press enter to test NULL input	PRESS ENTER	Your selection: NULL INVALID INPUT! Please try again.	Pass

OPTION '1' - *Display average wind speed and sample standard deviation for a specified month and year.*

Test	Test description/condition	Test Data/Values	Expected output	Pass/Fail
15	Enter '1' as month 'January' to test valid month.	1	Please enter a month (must be numeric. i.e. 1 for January): 1 Please enter a year:	Pass
16	Enter '12' as month 'December to test valid month	12	Please enter a month (must be numeric. i.e. 1 for January): 12 Please enter a year:	Pass
17	Enter '0' to test lower boundary of acceptable numerical input	0	Please enter a month (must be numeric. i.e. 1 for January): 0 INVALID INPUT! Please try again. Please enter a month (must be numeric. i.e. 1 for January):	Pass
18	Enter '13' to test upper boundary of acceptable numerical input	13	Please enter a month (must be numeric. i.e. 1 for January): 13 INVALID INPUT! Please try again. Please enter a month (must be numeric. i.e. 1 for January):	Pass
19	Enter 'c#26' to test valid input.	c#26	Please enter a month (must be numeric. i.e. 1 for January): c#26 INVALID INPUT! Please try again. Please enter a month (must be numeric. i.e. 1 for January):	Pass
20	Enter 'January' as month to test valid input.	January	Please enter a month (must be numeric. i.e. 1 for January): January INVALID INPUT! Please try again. Please enter a month (must be numeric. i.e. 1 for January):	
21	Press enter to test NULL month input	PRESS ENTER	Please enter a month (must be numeric. i.e. 1 for January): NULL INVALID INPUT! Please try again. Please enter a month (must be numeric. i.e. 1 for January):	Pass
22	After test 15, enter '2012' to test valid year and check calculated output.	2012	January 2012: Average speed: 27.1 km/h Sample stdev: 11.7	Pass

23	After test 15, enter '1998' to test minimum allowed valid year however with no data available	1998	Please enter a month (must be numeric. i.e. 1 for January): 1 Please enter a year: 1998 January 1998: No Data	Pass
24	After test 15, enter '2020' to test maximum allowed valid year however with no data available	2020	Please enter a month (must be numeric. i.e. 1 for January): 1 Please enter a year: 2020 January 2020: No Data	Pass
25	After test 15, enter '1997' to test lower boundary of a valid year.	1997	Please enter a year: 1997 INVALID INPUT! Please try again. Please enter a year:	Pass
26	After test 15, enter '2021' to test upper boundary of a valid year.	2021	Please enter a year: 2021 INVALID INPUT! Please try again. Please enter a year:	Pass
27	After test 15, enter 'abcd ef' to test valid input for year	abcd ef	Please enter a year: abcd ef INVALID INPUT! Please try again. Please enter a year:	Pass
28	After test 15, press enter to test NULL year input	PRESS ENTER	Please enter a year: NULL INVALID INPUT! Please try again. Please enter a year:	Pass

OPTION '2' - *Display average ambient air temperature and sample standard deviation for each month of a specified year.*

Test	Test description/condition	Test Data/Values	Expected output	Pass/Fail
29	Enter '2015' to test valid year and check calculated output.	2015	2015: Average St.Dev January 24.6 5.4 February 24.4 4.7 March 22.2 4.7 April 19.1 4.2	Pass
30	Enter '2014' to test valid year and check program recognises no data for the month of February	2014	Please enter a year: 2014 2014 January: … February: No Data March: … April: … …	Pass
31	Enter '1998' to test minimum allowed valid year however with no data available	1998	Please enter a year: 1998 1998 January: No Data February: No Data March: No Data April: No Data …	Pass
32	Enter '2020' to test maximum allowed valid year however with no data available	2020	Please enter a year: 2020 2020 January: No Data February: No Data March: No Data April: No Data …	Pass
33	Enter '1997' to test lower boundary of a valid year.	1997	Please enter a year: 1997 INVALID INPUT! Please try again.	Pass

			Please enter a year:	
34	Enter '2021' to test upper boundary of a valid year.	2021	Please enter a year: 2021 INVALID INPUT! Please try again. Please enter a year:	Pass
35	Enter '2008&$sg' to check program recognises this as invalid input.	2008&$sg	Please enter a year: 2008&$sg INVALID INPUT! Please try again. Please enter a year:	Pass
36	Enter 'abcd ef' to test valid input.	abcd ef	Please enter a year: abcd ef INVALID INPUT! Please try again. Please enter a year:	Pass
37	Press space then enter to test to test valid input.	'_' then PRESS ENTER	Please enter a year: _ INVALID INPUT! Please try again. Please enter a year:	Pass
38	Press enter to test NULL year input	PRESS ENTER	Please enter a year: NULL INVALID INPUT! Please try again. Please enter a year:	Pass

OPTION '3' - *Display total solar radiation in kWh/m2 for each month of a specified year.*

Test	Test description/condition	Test Data/Values	Expected output	Pass/Fail
39	Enter '2015' to test valid year and check calculated output.	2015	2015: Sol Rad January 254.7 February 197.4 March 186.5 April 125.6 …	Pass
40	Enter '2014' to test valid year and check program recognises no data for the month of February	2014	Please enter a year: 2014 2014 January: … February: No Data March: … April: … …	Pass
41	Enter '1998' to test minimum allowed valid year however with no data available	1998	Please enter a year: 1998 1998 January: No Data February: No Data March: No Data April: No Data …	Pass
42	Enter '2020' to test maximum allowed valid year however with no data available	2020	Please enter a year: 2020 2020 January: No Data February: No Data March: No Data April: No Data …	Pass

43	Enter '1997' to test lower boundary of a valid year.	1997	Please enter a year: 1997 INVALID INPUT! Please try again. Please enter a year:	Pass
44	Enter '2021' to test upper boundary of a valid year.	2021	Please enter a year: 2021 INVALID INPUT! Please try again. Please enter a year:	Pass
45	Enter '2008&$sg' to check program recognises this as invalid input.	2008&$sg	Please enter a year: 2008&$sg INVALID INPUT! Please try again. Please enter a year:	Pass
46	Enter 'abcd ef' to test valid input.	abcd ef	Please enter a year: abcd ef INVALID INPUT! Please try again. Please enter a year:	Pass
47	Press space then enter to test to test valid input.	'_' then PRESS ENTER	Please enter a year: _ INVALID INPUT! Please try again. Please enter a year:	Pass
48	Press enter to test NULL year input	PRESS ENTER	Please enter a year: NULL INVALID INPUT! Please try again. Please enter a year:	Pass

OPTION '4' - *Print to file - Average wind speed (km/h), average ambient air temperature and total solar radiation in kWh/sqm for each month of a specified year.*

Test	Test description/condition	Test Data/Values	Expected output	Pass/Fail
49	Enter '2015' to test valid year and check calculated output to file 'WindTempSolar.csv'.	2015	Successfully written to file: WindTempSolar.csv 2015: Speed / Speed St.Dev / Amb Temp / Amb Temp St.Dev / Sol Rad January 21.9 9.5 24.6 5.4 254.7 February 20.2 9.8 24.4 4.7 197.4 March 20.3 9.1 22.2 4.7 186.5 April 20.9 9.9 19.1 4.2 125.6	Pass
50	Enter '2014' to test valid year and check program recognises no data for the month of February and ignores output of this month in file 'WindTempSolar.csv'	2014	Successfully written to file: WindTempSolar.csv 2014 January … March … April … …	Pass
51	Enter '1998' to test minimum allowed valid year however with no data available. In file 'WindTempSolar.csv', "No Data" is printed under the year.	1998	Successfully written to file: WindTempSolar.csv 1998 No Data	Pass
52	Enter '2020' to test maximum allowed valid year however with no data available. In file 'WindTempSolar.csv', "No Data" is printed under the year.	2020	Successfully written to file: WindTempSolar.csv 2020 No Data	Pass
53	Enter '1997' to test lower boundary of a valid year.	1997	Please enter a year: 1997 INVALID INPUT! Please try again. Please enter a year:	Pass

54	Enter '2021' to test upper boundary of a valid year.	2021	Please enter a year: 2021 INVALID INPUT! Please try again. Please enter a year:	Pass
55	Enter '2008&$sg' to check program recognises this as invalid input.	2008&$sg	Please enter a year: 2008&$sg INVALID INPUT! Please try again. Please enter a year:	Pass
56	Enter 'abcd ef' to test valid input.	abcd ef	Please enter a year: abcd ef INVALID INPUT! Please try again. Please enter a year:	Pass
57	Press space then enter to test to test valid input.	'_' then PRESS ENTER	Please enter a year: _ INVALID INPUT! Please try again. Please enter a year:	Pass
58	Press enter to test NULL year input	PRESS ENTER	Please enter a year: NULL INVALID INPUT! Please try again. Please enter a year:	Pass
59	Leave file 'WindTempSolar.csv' open from previous test and enter '2000' to check output to file 'WindTempSolar.csv' cannot occur as file is already open.	Leave file 'WindTempSolar.csv' open	Please enter a year: 2000 FILE COULD NOT OPEN! Please check file is not open before trying again.	Pass

OPTION '5' - *Display times for the highest solar radiation for a specified date.*

Test	Test description/condition	Test Data/Values	Expected output	Pass/Fail
60	Enter 1/3/2014 to test valid input and that the program contains a maximum solar radiation value and time/s for this date.	1/3/2014	Date: 1/3/2014 High solar radiation for the day: 1026 W/m2 Times: 12:10	Pass
61	Enter 25/1/2019 to test valid date however with no data available.	25/1/2019	Enter a date in the form d/m/yyyy: 25/1/2019 Date: 25/1/2019 No Data	Pass
62	Enter '1/1/1998' to test minimum allowed valid date however with no data available	1/1/1998	Enter a date in the form d/m/yyyy: 1/1/1998 Date: 1/1/1998 No Data	Pass
63	Enter '31/12/2020' to test maximum allowed valid date however with no data available	31/12/2020	Enter a date in the form d/m/yyyy: 31/12/2020 Date: 31/12/2020 No Data	Pass
64	Enter '31/12/1997' to test earliest date boundary.	31/12/1997	Enter a date in the form d/m/yyyy: 31/12/1997 INVALID INPUT! Please try again. Enter a date in the form d/m/yyyy:	Pass

65	Enter '1/1/2021' to test latest date boundary.	1/1/2021	Enter a date in the form d/m/yyyy: 1/1/2021 INVALID INPUT! Please try again. Enter a date in the form d/m/yyyy:	Pass
66	Enter "/1/2014" to test for invalid input.	/1/2014	Enter a date in the form d/m/yyyy: /1/2014 INVALID INPUT! Please try again. Enter a date in the form d/m/yyyy:	Pass
67	Enter "1//2014" to test for invalid input.	1//2014	Enter a date in the form d/m/yyyy: 1//2014 INVALID INPUT! Please try again. Enter a date in the form d/m/yyyy:	Pass
68	Enter "1/1/2#00" to test for invalid input.	1/1/2#000	Enter a date in the form d/m/yyyy: 1/1/2#000 INVALID INPUT! Please try again. Enter a date in the form d/m/yyyy:	Pass
69	Enter 1-5-2014 to test for invalid date separator (invalid input)	1-5-2014	Enter a date in the form d/m/yyyy: 1-5-2014 INVALID INPUT! Please try again. Enter a date in the form d/m/yyyy:	Pass

70	Enter '152014' to test for no date separator (invalid input)	152014	Enter a date in the form d/m/yyyy: 152014 INVALID INPUT! Please try again. Enter a date in the form d/m/yyyy:	Pass
71	Enter 'abcd12' to test for invalid input	abcd12	Enter a date in the form d/m/yyyy: abcd12 INVALID INPUT! Please try again. Enter a date in the form d/m/yyyy:	Pass
72	Press enter to test for NULL input	Press ENTER	Enter a date in the form d/m/yyyy: NULL INVALID INPUT! Please try again.	Pass
73	Enter and hold '1' to create a very long number to test program picks up this as invalid input	1111111111111111111111111111111111111111111111111	Enter a date in the form d/m/yyyy: 1111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111111 INVALID INPUT! Please try again. Enter a date in the form d/m/yyyy:	

END OF TEST TABLE

Option 6 was not tested separately as this was already tested in the main menu at test no. 7.

OUTPUT OF TEST RUNS

FILE INPUT

1

```
I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\executable\WeatherStats.exe

=========================WELCOME TO THE PROGRAM=============================
READING data/MetData_Jan01-2010-Jan01-2011-ALL.csv...
Duplicate time/s were detected and have been discarded!
READING data/MetData_Jan01-2011-Jan01-2012-ALL.csv...
READING data/MetData_Jan01-2012-Jan01-2013-ALL.csv...
READING data/MetData_Jan01-2013-Jan01-2014-ALL.csv...
READING data/MetData_Mar01-2014-Mar01-2015-ALL.csv...
READING data/MetData_Mar01-2015-Mar01-2016-ALL.csv...
READING data/Metdata-Jan-Dec2007.csv...
READING data/Metdata-Jan-Dec2008.csv...
Duplicate time/s were detected and have been discarded!
READING data/Metdata-Jan-Dec2009.csv...
Duplicate time/s were detected and have been discarded!
READING data/Metdata-Jan-Dec2016.csv ...
Duplicate time/s were detected and have been discarded!

WEATHER DATA LOADED SUCCESSFULLY!

================================MAIN MENU=====================================
```

2

```
Command Prompt
=========================WELCOME TO THE PROGRAM=============================

PROGRAM CONTAINS NO DATA! Program will exit...
```

3

```
Command Prompt
=========================WELCOME TO THE PROGRAM=============================
TEXT FILE met_index.txt NOT FOUND! Program will exit...
```

4

```
I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\executable\WeatherStats.exe

=========================WELCOME TO THE PROGRAM=============================
READING data/MetData_Jan01-2010-Jan01-2011-ALL.csv...
Duplicate time/s were detected and have been discarded!
WARNING: data/MetData_Jan01-2011-Jan01-2012-ALL NOT FOUND!

WEATHER DATA LOADED SUCCESSFULLY!

================================MAIN MENU=====================================
```

MAIN MENU

5

Command Prompt - WeatherStats.exe

```
================================MAIN MENU=====================================
Menu options are:

1. Display average wind speed and sample standard deviation for a specified month a
2. Display average ambient air temperature and sample standard deviation for each m
3. Display total solar radiation in kWh/m2 for each month of a specified year.
4. Print to file - Average wind speed (km/h), average ambient air temperature and t
ach month of a specified year.
   The standard deviation is printed in () next to the average.
5. Display times for the highest solar radiation for a specified date.
6. Exit program.

Your selection: 1

You have selected 1.

Please enter a month (must be numeric. i.e. 1 for January):
```

6

```
   The standard deviation is printed in () next to the average.
5. Display times for the highest solar radiation for a specified date.
6. Exit program.

Your selection: 5

You have selected 5.

Enter a date in the form d/m/yyyy:
```

7

```
   The standard deviation is printed in () next to the average.
5. Display times for the highest solar radiation for a specified date.
6. Exit program.

Your selection: 6

You have selected 6.

Program will now exit...
```

8

```
   The standard deviation is printed in () next to the average.
5. Display times for the highest solar radiation for a specified date.
6. Exit program.

Your selection: 2

You have selected 2.

Please enter a year:
```

9

```
   The standard deviation is printed in () next to the average.
5. Display times for the highest solar radiation for a specified date.
6. Exit program.

Your selection: 3

You have selected 3.

Please enter a year:
```

10

```
   The standard deviation is printed in () next to the average.
5. Display times for the highest solar radiation for a specified date.
6. Exit program.

Your selection: 4

You have selected 4.

Please enter a year:
```

11

```
   The standard deviation is printed in () next to the average.
5. Display times for the highest solar radiation for a specified date.
6. Exit program.

Your selection: 0

INVALID INPUT! Please try again.
```

12

```
5. Display times for the highest solar radiation for a specified date.
6. Exit program.

Your selection: 7

INVALID INPUT! Please try again.
```

13

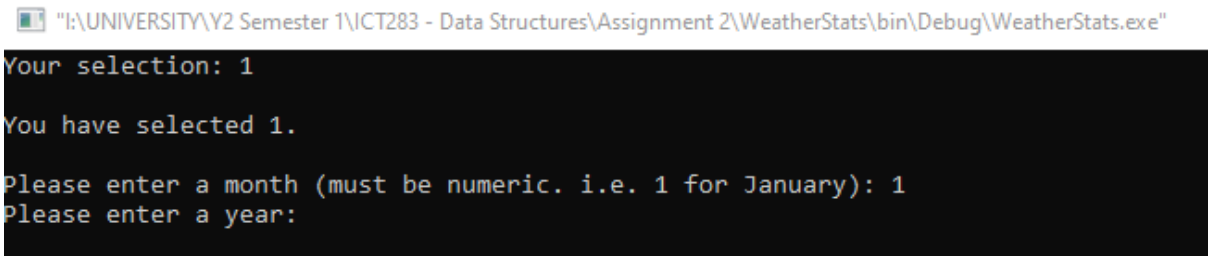
```
   The standard deviation is printed in () next to the average.
5. Display times for the highest solar radiation for a specified date.
6. Exit program.

Your selection: 2abc

INVALID INPUT! Please try again.
```

14

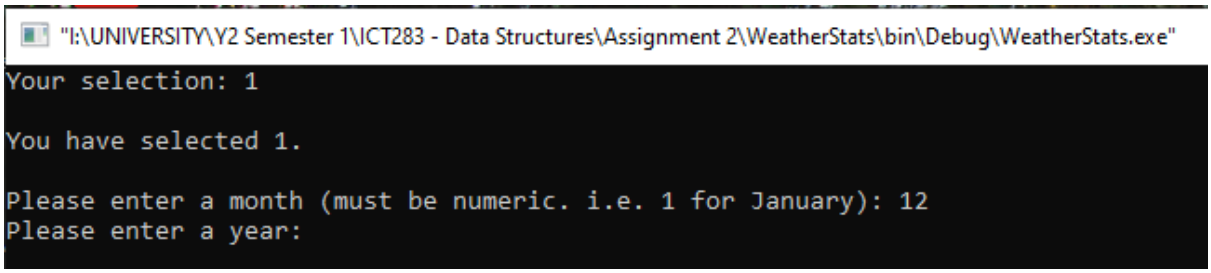
```
5. Display times for the highest solar radiation for a specified date.
6. Exit program.

Your selection:

INVALID INPUT! Please try again.
```

OPTION '1'

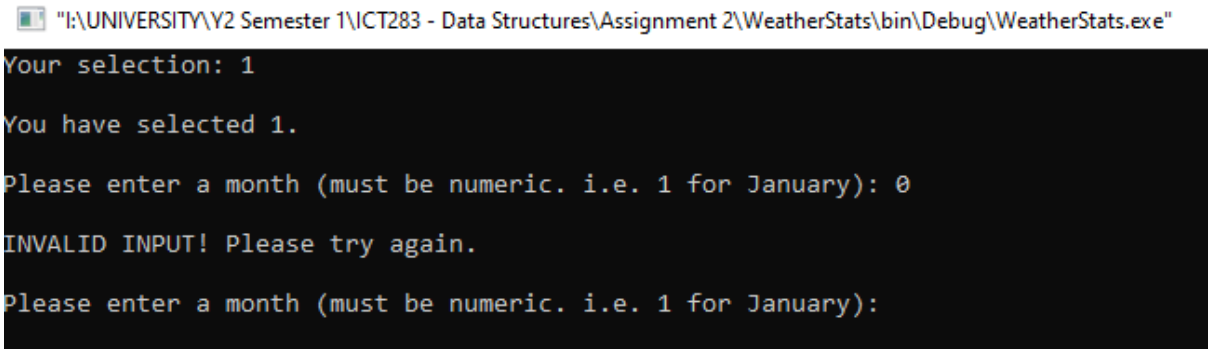
15



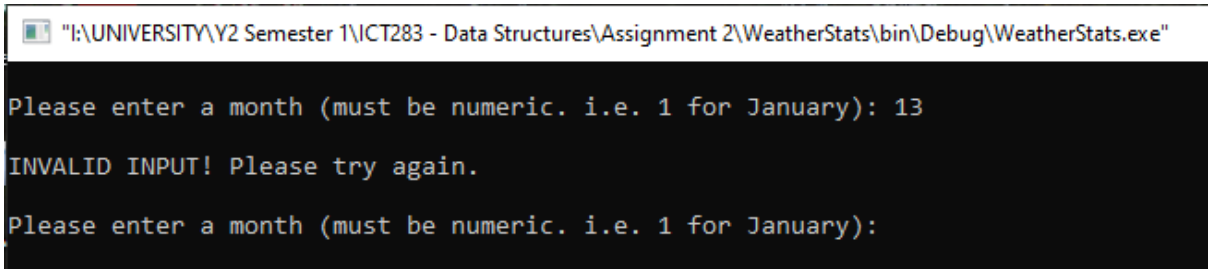
16



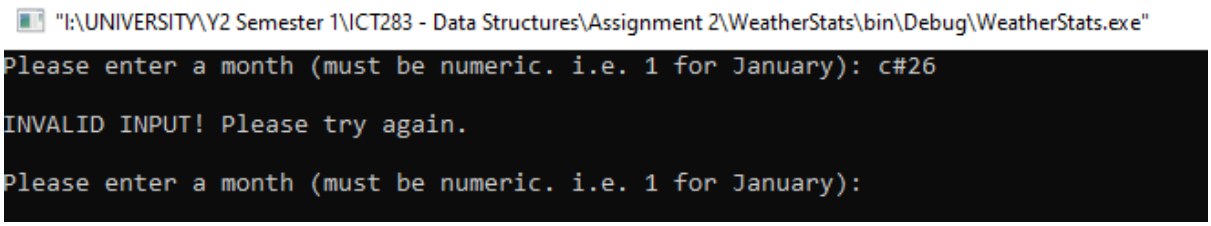
17



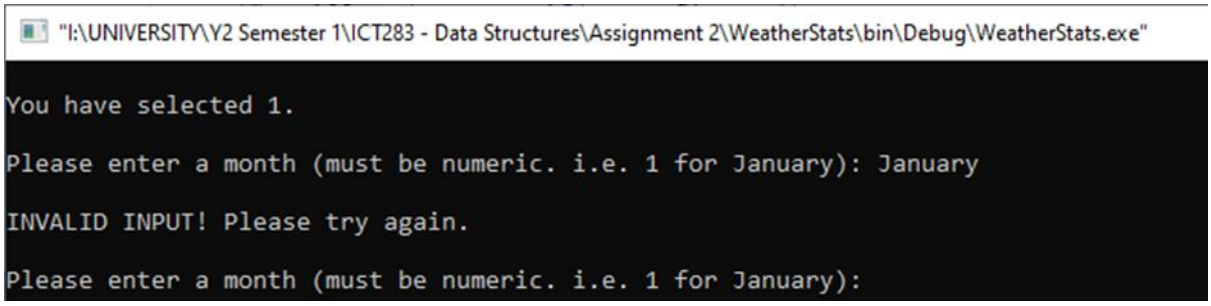
18



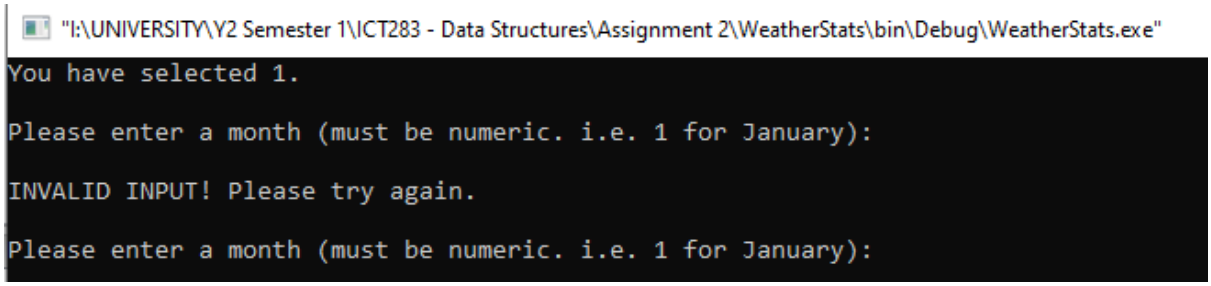
19


"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
Please enter a month (must be numeric. i.e. 1 for January): c#26
INVALID INPUT! Please try again.
Please enter a month (must be numeric. i.e. 1 for January):

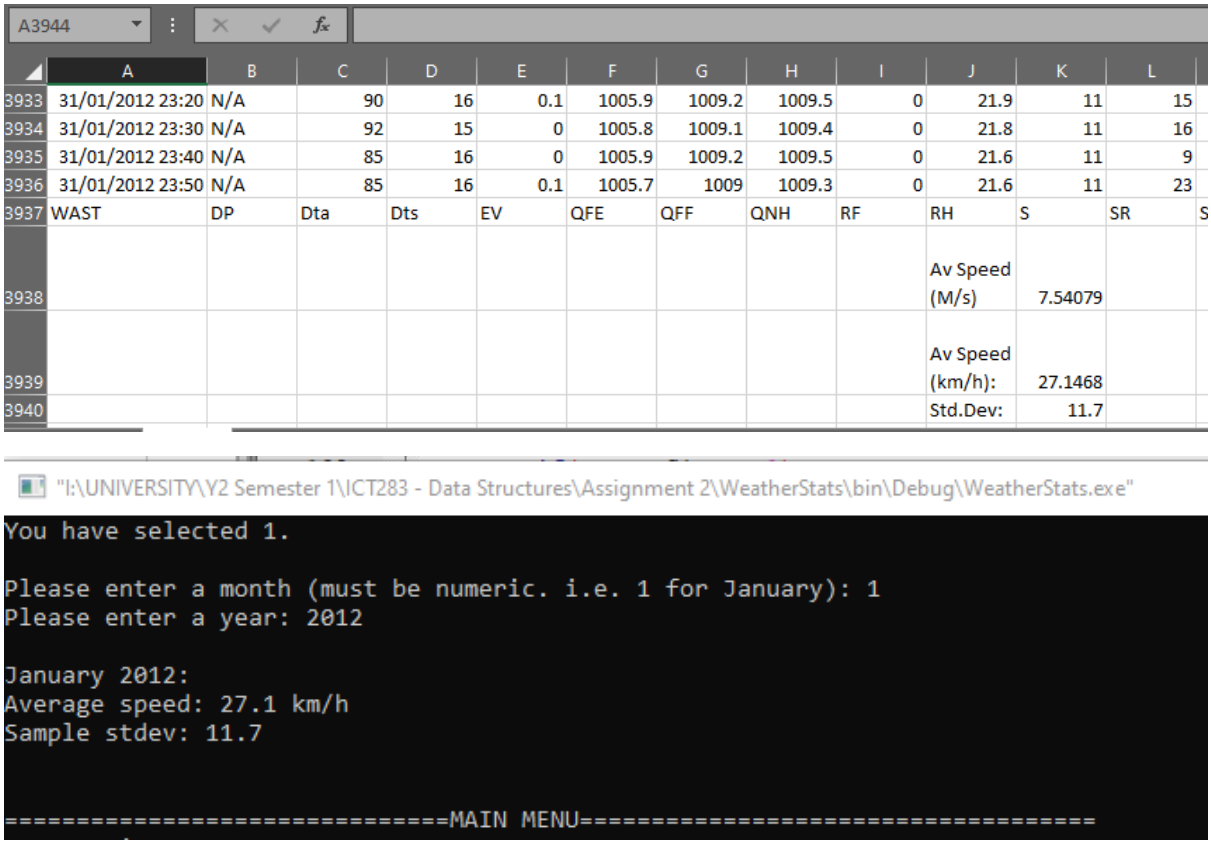
20


"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
You have selected 1.
Please enter a month (must be numeric. i.e. 1 for January): January
INVALID INPUT! Please try again.
Please enter a month (must be numeric. i.e. 1 for January):

21

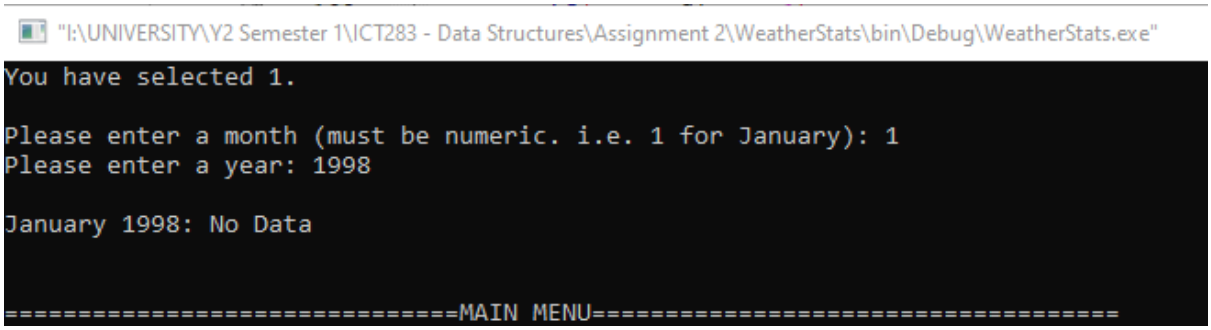

"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
You have selected 1.
Please enter a month (must be numeric. i.e. 1 for January):
INVALID INPUT! Please try again.
Please enter a month (must be numeric. i.e. 1 for January):

22

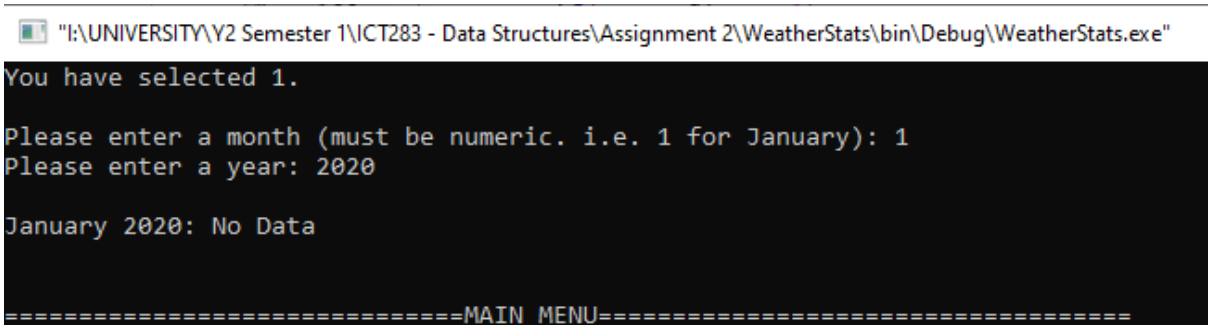


	A	B	C	D	E	F	G	H	I	J	K	L
3933	31/01/2012 23:20	N/A	90	16	0.1	1005.9	1009.2	1009.5	0	21.9	11	15
3934	31/01/2012 23:30	N/A	92	15	0	1005.8	1009.1	1009.4	0	21.8	11	16
3935	31/01/2012 23:40	N/A	85	16	0	1005.9	1009.2	1009.5	0	21.6	11	9
3936	31/01/2012 23:50	N/A	85	16	0.1	1005.7	1009	1009.3	0	21.6	11	23
3937	WAST	DP	Dta	Dts	EV	QFE	QFF	QNH	RF	RH	S	SR
3938										Av Speed (M/s)	7.54079	
3939										Av Speed (km/h):	27.1468	
3940										Std.Dev:	11.7	

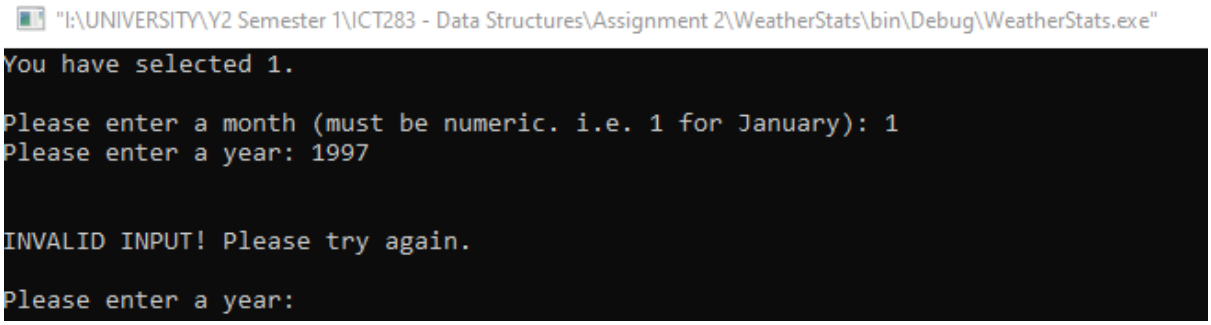
23



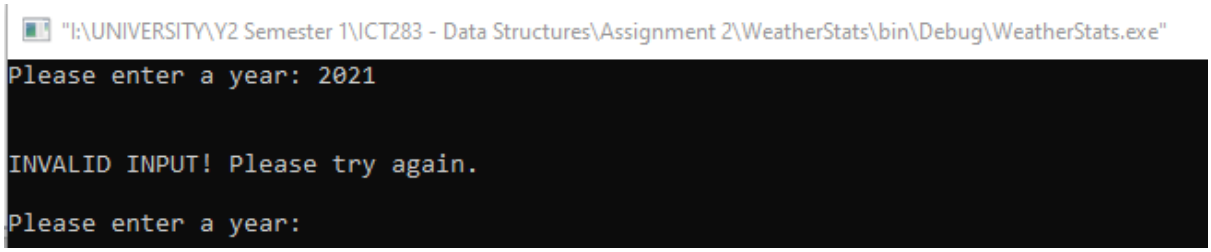
24



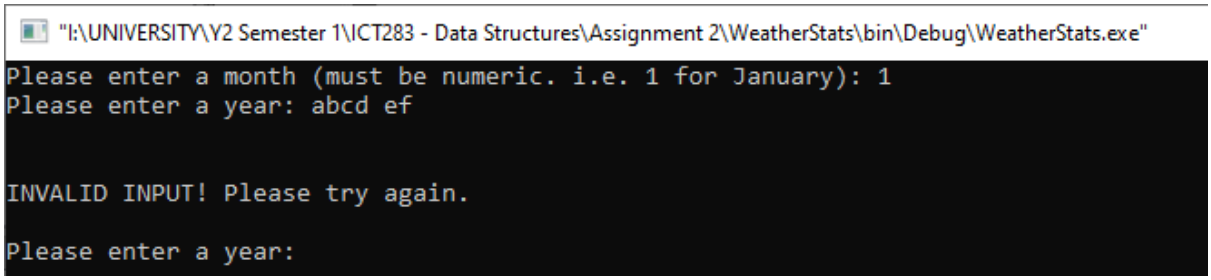
25


"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
You have selected 1.
Please enter a month (must be numeric. i.e. 1 for January): 1
Please enter a year: 1997
INVALID INPUT! Please try again.
Please enter a year:

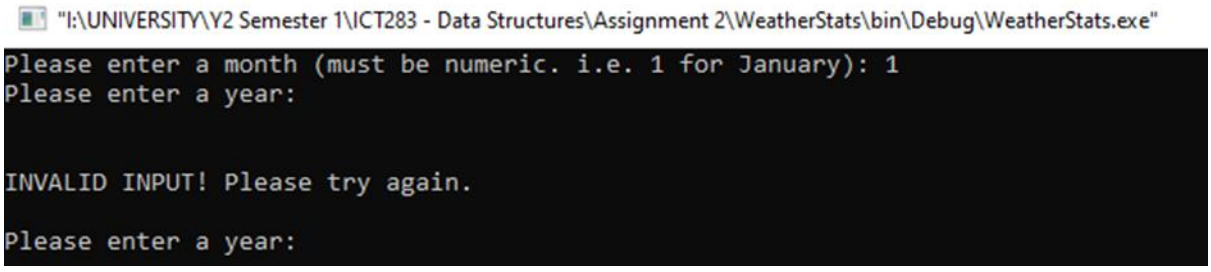
26


"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
Please enter a year: 2021
INVALID INPUT! Please try again.
Please enter a year:

27

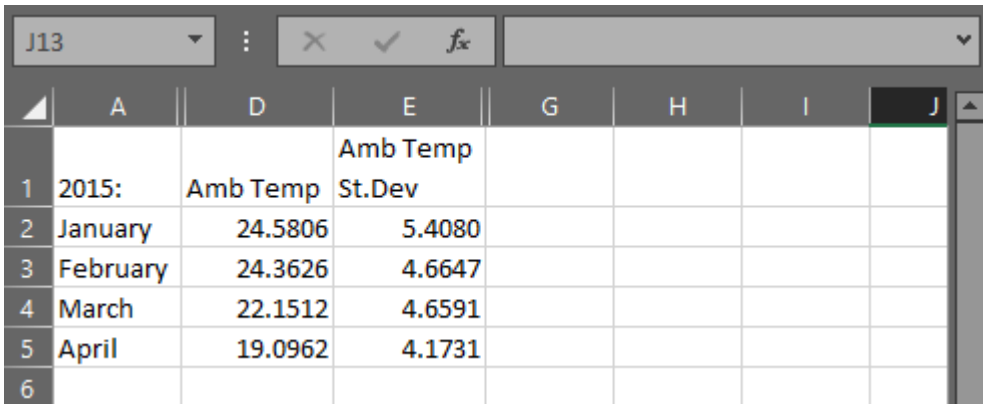

"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
Please enter a month (must be numeric. i.e. 1 for January): 1
Please enter a year: abcd ef
INVALID INPUT! Please try again.
Please enter a year:

28


"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
Please enter a month (must be numeric. i.e. 1 for January): 1
Please enter a year:
INVALID INPUT! Please try again.
Please enter a year:

OPTION '2'

29



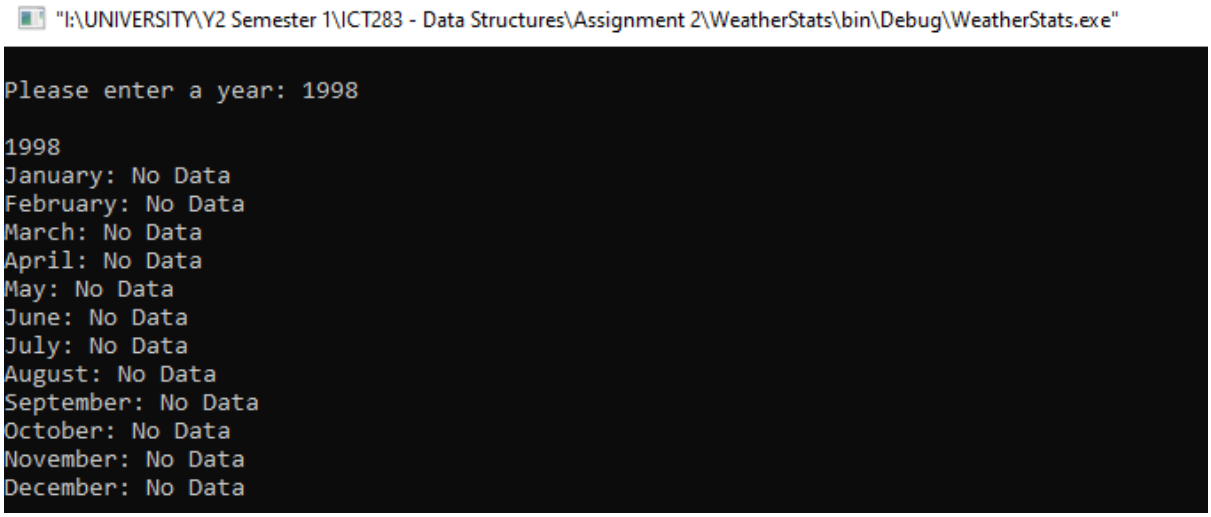
	A	D	E	G	H	I	J
1	2015:	Amb Temp	Amb Temp St.Dev				
2	January	24.5806	5.4080				
3	February	24.3626	4.6647				
4	March	22.1512	4.6591				
5	April	19.0962	4.1731				
6							

```
Select "I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"

Please enter a year: 2015

2015
January: average: 24.6 degrees C, stdev: 5.4
February: average: 24.4 degrees C, stdev: 4.7
March: average: 22.2 degrees C, stdev: 4.7
April: average: 19.1 degrees C, stdev: 4.2
May: average: 14.8 degrees C, stdev: 4.7
June: average: 14.8 degrees C, stdev: 4.3
July: average: 13.5 degrees C, stdev: 3.9
August: average: 14.0 degrees C, stdev: 4.1
September: average: 15.4 degrees C, stdev: 5.3
October: average: 19.0 degrees C, stdev: 4.8
November: average: 20.8 degrees C, stdev: 5.0
December: average: 21.9 degrees C, stdev: 5.6
```

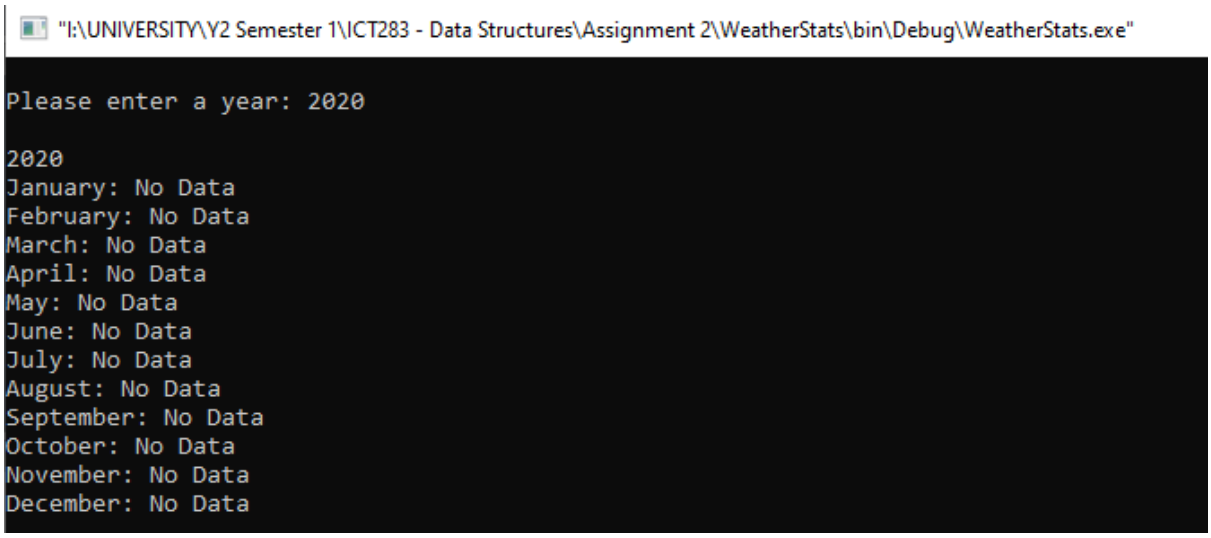
30

```
"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"

Please enter a year: 2014

2014
January: average: 16.9 degrees C, stdev: 2.2
February: No Data
March: average: 22.8 degrees C, stdev: 5.2
April: average: 19.3 degrees C, stdev: 5.0
May: average: 16.5 degrees C, stdev: 3.2
June: average: 13.2 degrees C, stdev: 4.7
July: average: 13.5 degrees C, stdev: 3.7
August: average: 15.5 degrees C, stdev: 4.1
September: average: 16.1 degrees C, stdev: 4.0
October: average: 17.8 degrees C, stdev: 4.7
November: average: 19.0 degrees C, stdev: 4.6
December: average: 21.2 degrees C, stdev: 5.0
```

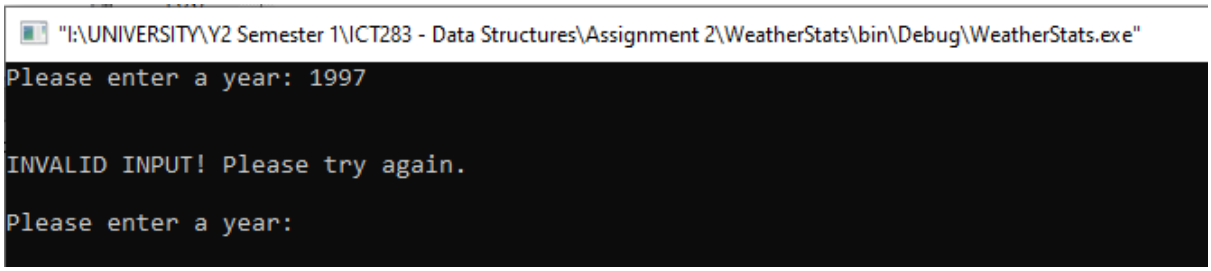
31


"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
Please enter a year: 1998
1998
January: No Data
February: No Data
March: No Data
April: No Data
May: No Data
June: No Data
July: No Data
August: No Data
September: No Data
October: No Data
November: No Data
December: No Data

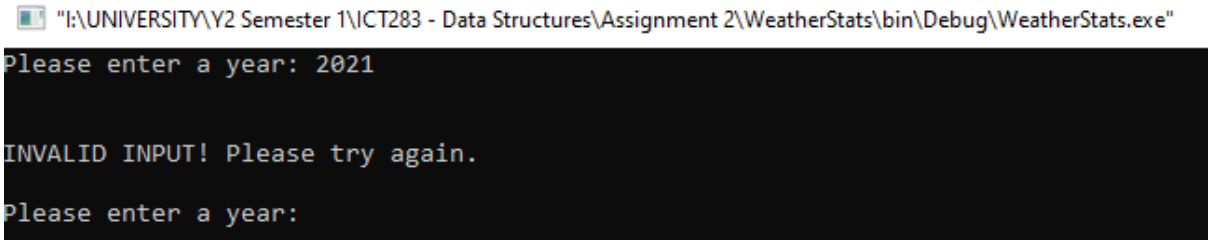
32


"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
Please enter a year: 2020
2020
January: No Data
February: No Data
March: No Data
April: No Data
May: No Data
June: No Data
July: No Data
August: No Data
September: No Data
October: No Data
November: No Data
December: No Data

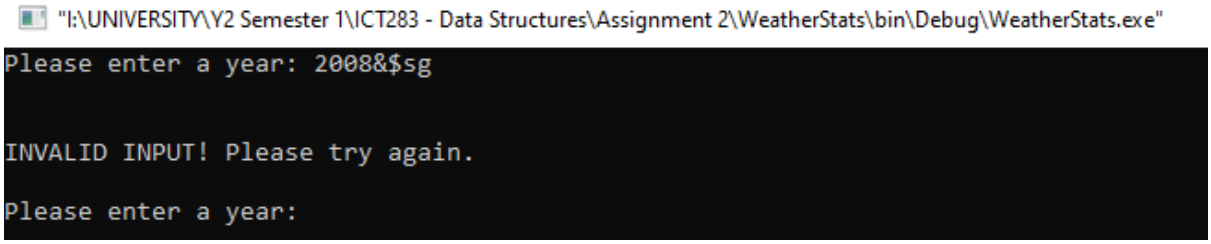
33


"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
Please enter a year: 1997
INVALID INPUT! Please try again.
Please enter a year:

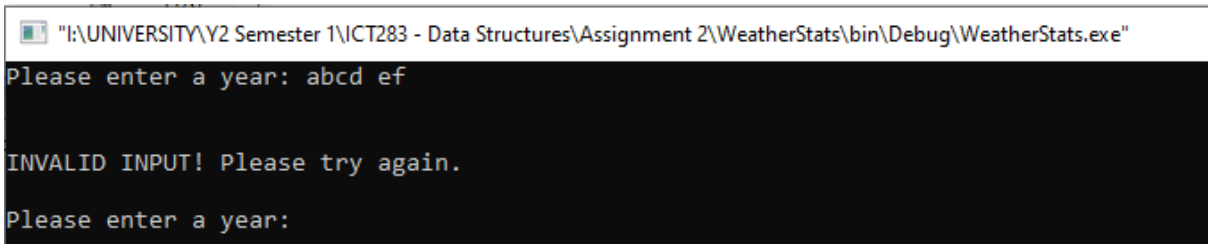
34


"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
Please enter a year: 2021
INVALID INPUT! Please try again.
Please enter a year:

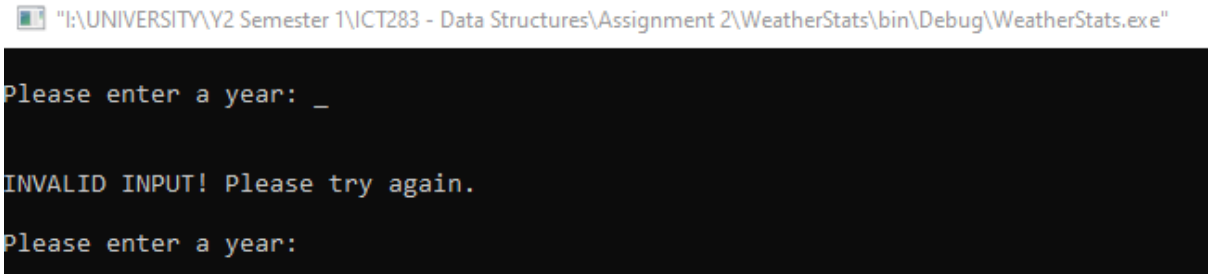
35


"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
Please enter a year: 2008&$sg
INVALID INPUT! Please try again.
Please enter a year:

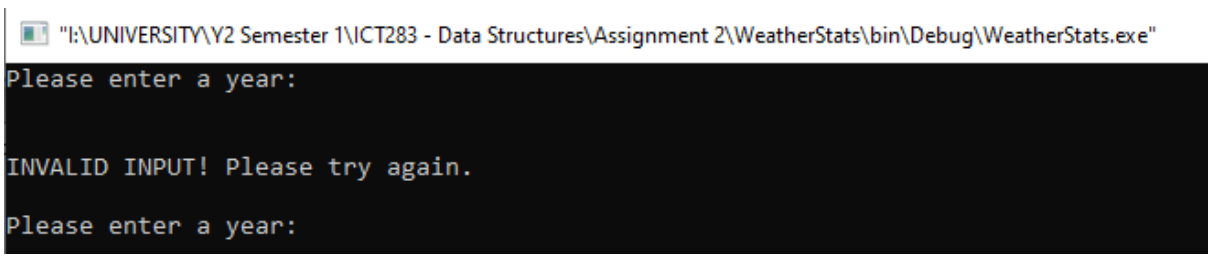
36


"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
Please enter a year: abcd ef
INVALID INPUT! Please try again.
Please enter a year:

37

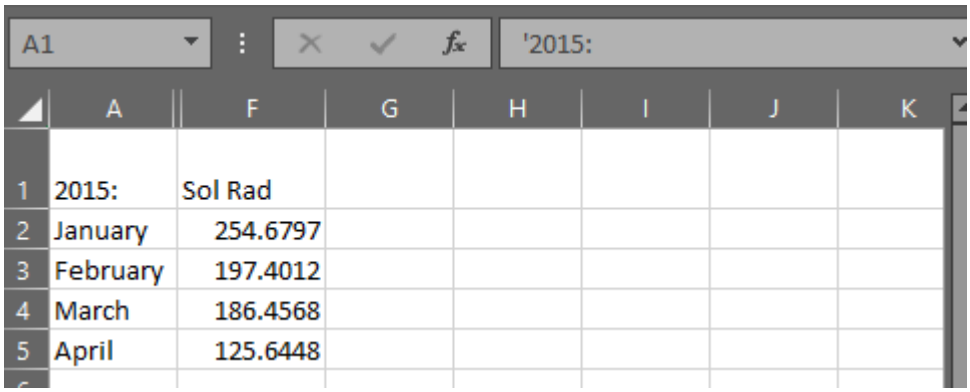

"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
Please enter a year: _
INVALID INPUT! Please try again.
Please enter a year:

38

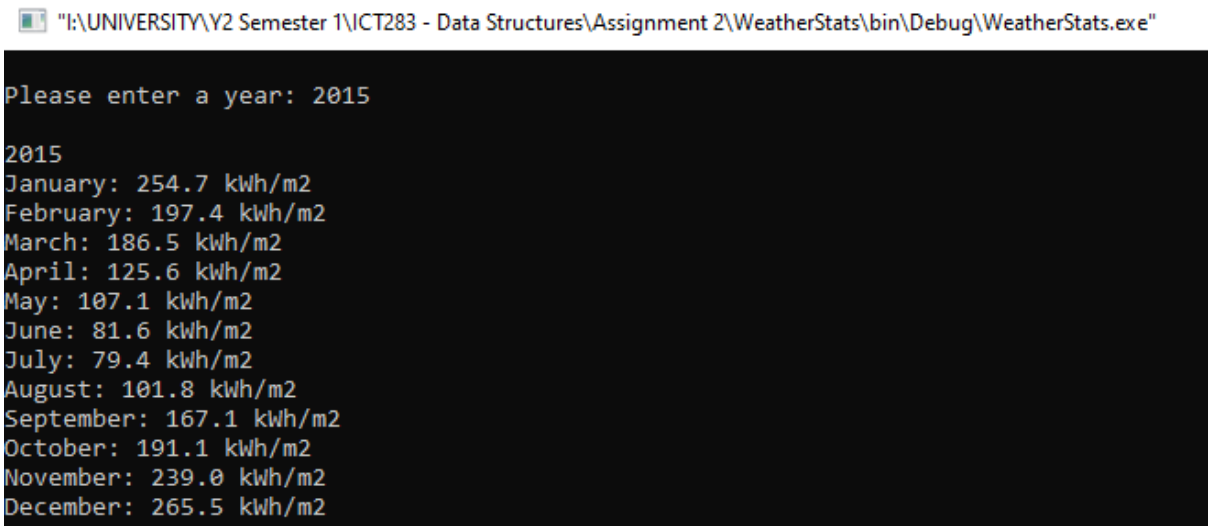

"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
Please enter a year:
INVALID INPUT! Please try again.
Please enter a year:

OPTION '3'

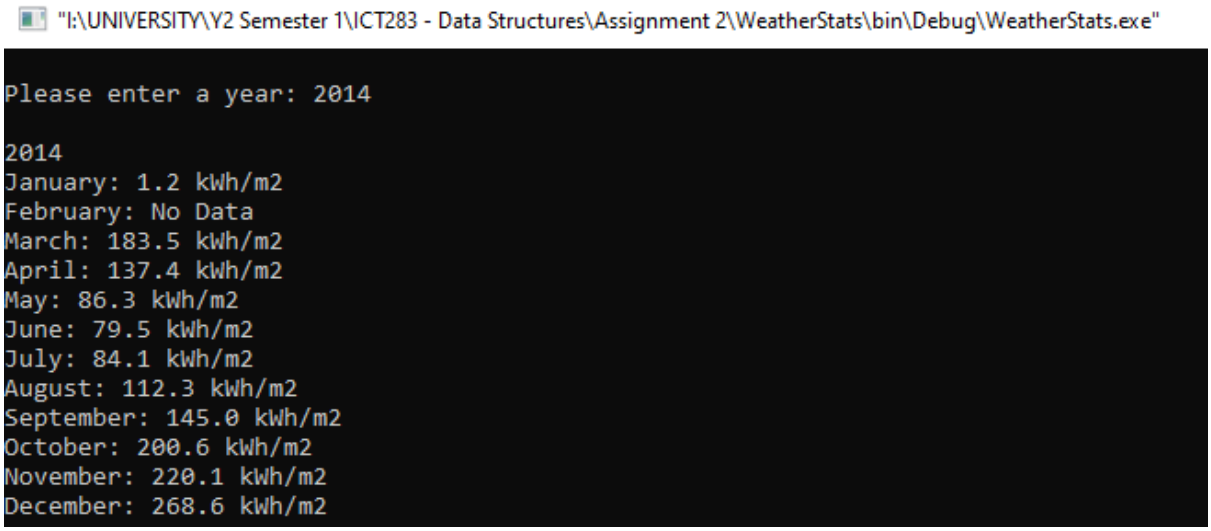
39



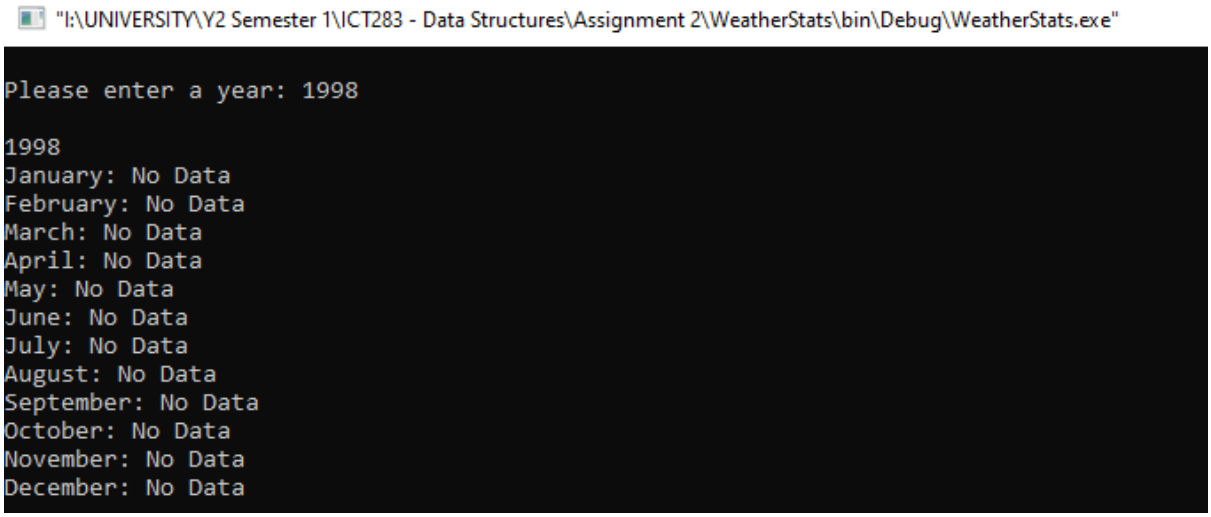
	A	F	G	H	I	J	K
1	2015:	Sol Rad					
2	January	254.6797					
3	February	197.4012					
4	March	186.4568					
5	April	125.6448					



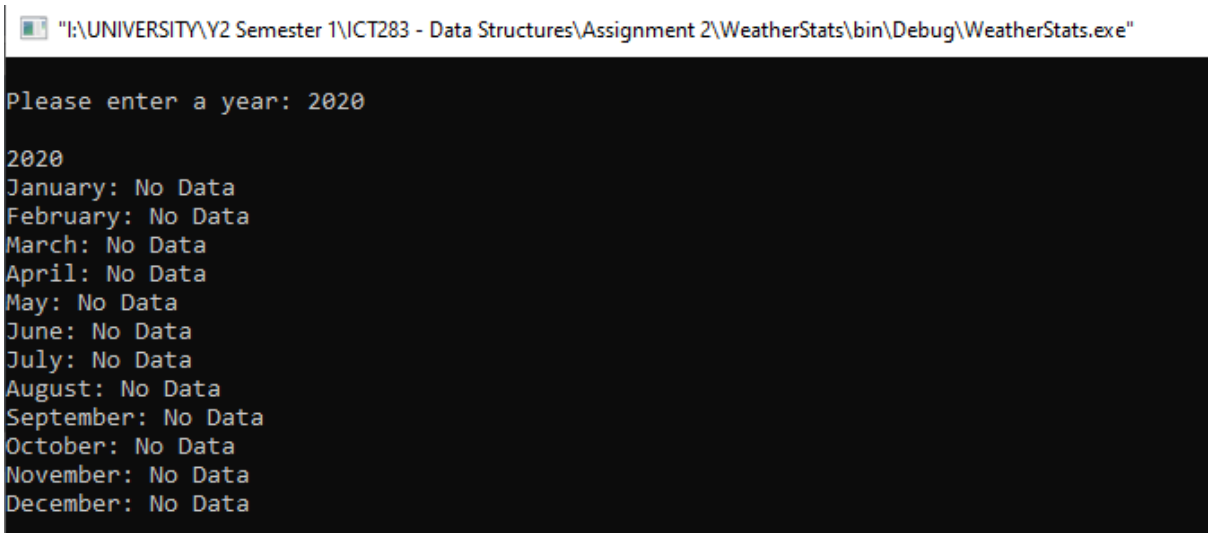
40



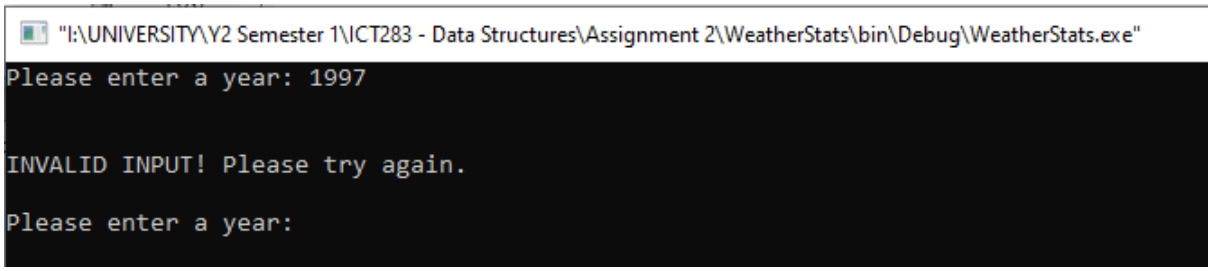
41


"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
Please enter a year: 1998
1998
January: No Data
February: No Data
March: No Data
April: No Data
May: No Data
June: No Data
July: No Data
August: No Data
September: No Data
October: No Data
November: No Data
December: No Data

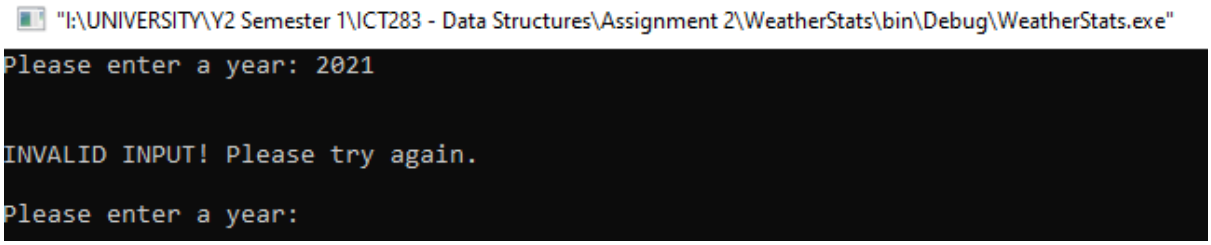
42


"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
Please enter a year: 2020
2020
January: No Data
February: No Data
March: No Data
April: No Data
May: No Data
June: No Data
July: No Data
August: No Data
September: No Data
October: No Data
November: No Data
December: No Data

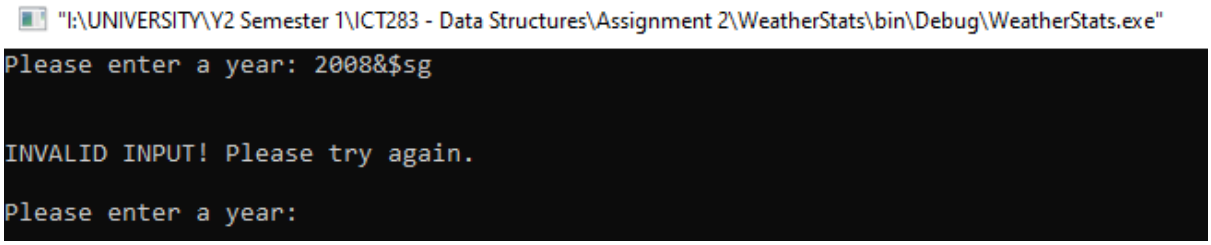
43


"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
Please enter a year: 1997
INVALID INPUT! Please try again.
Please enter a year:

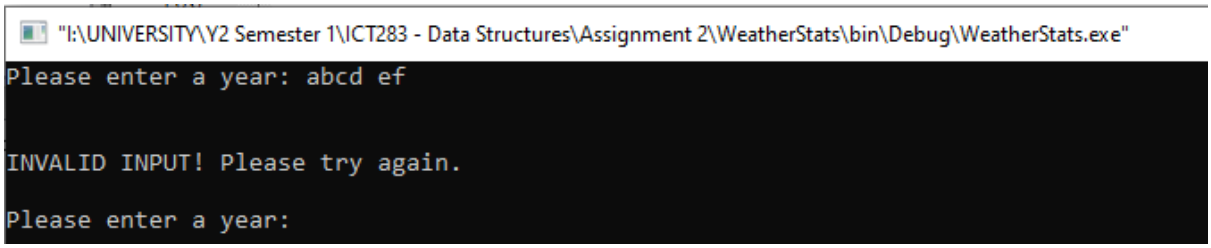
44


"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
Please enter a year: 2021
INVALID INPUT! Please try again.
Please enter a year:

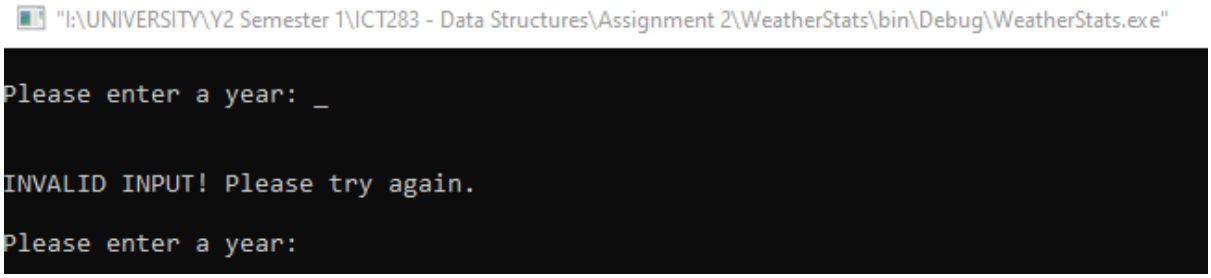
45


"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
Please enter a year: 2008&$sg
INVALID INPUT! Please try again.
Please enter a year:

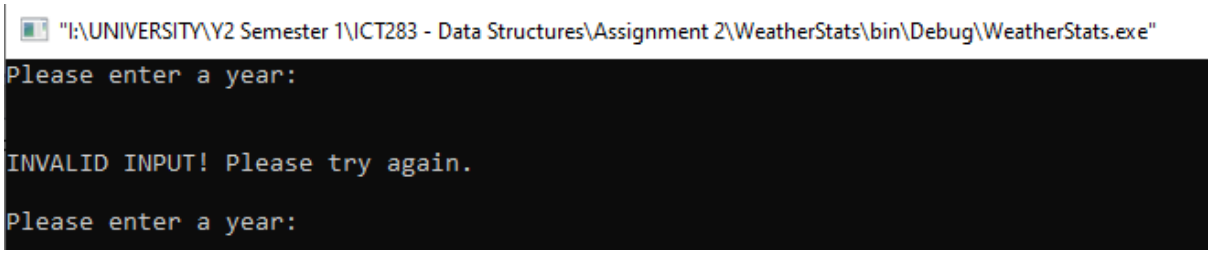
46


"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
Please enter a year: abcd ef
INVALID INPUT! Please try again.
Please enter a year:

47

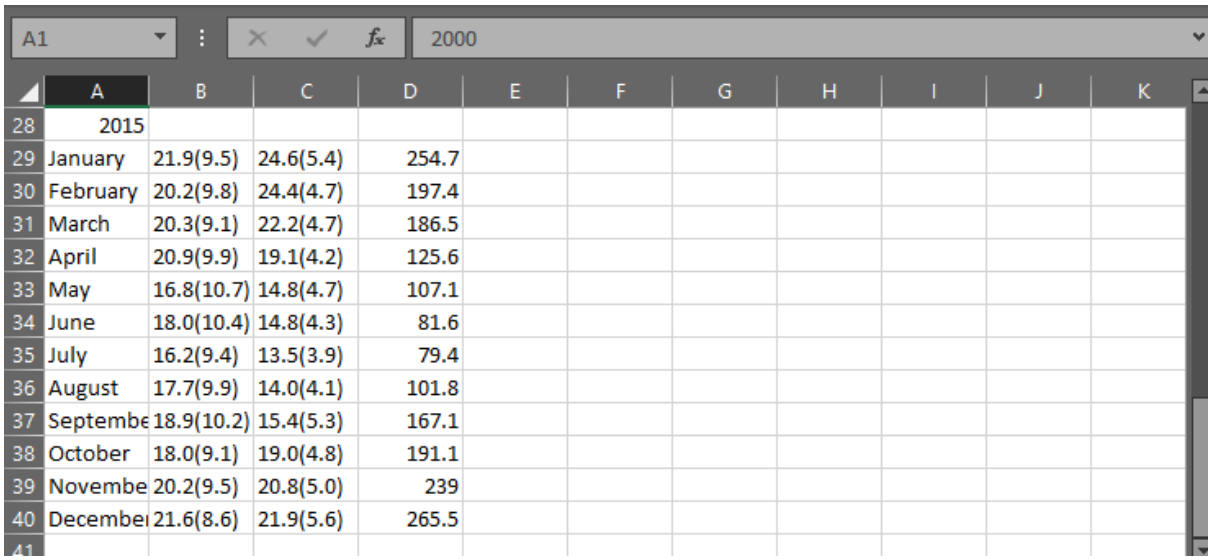

"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
Please enter a year: _
INVALID INPUT! Please try again.
Please enter a year:

48


"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
Please enter a year:
INVALID INPUT! Please try again.
Please enter a year:

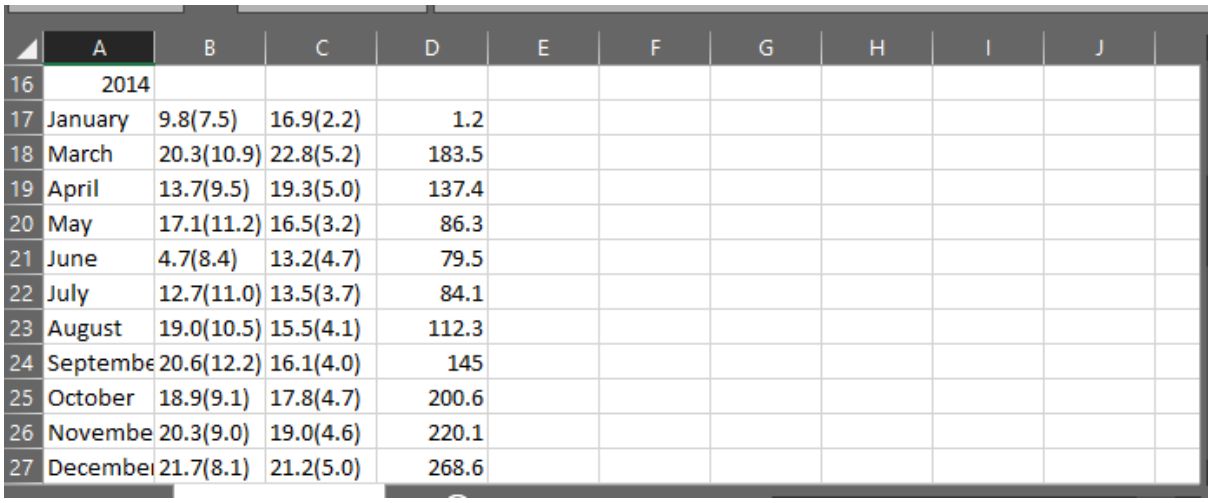
OPTION '4'

49



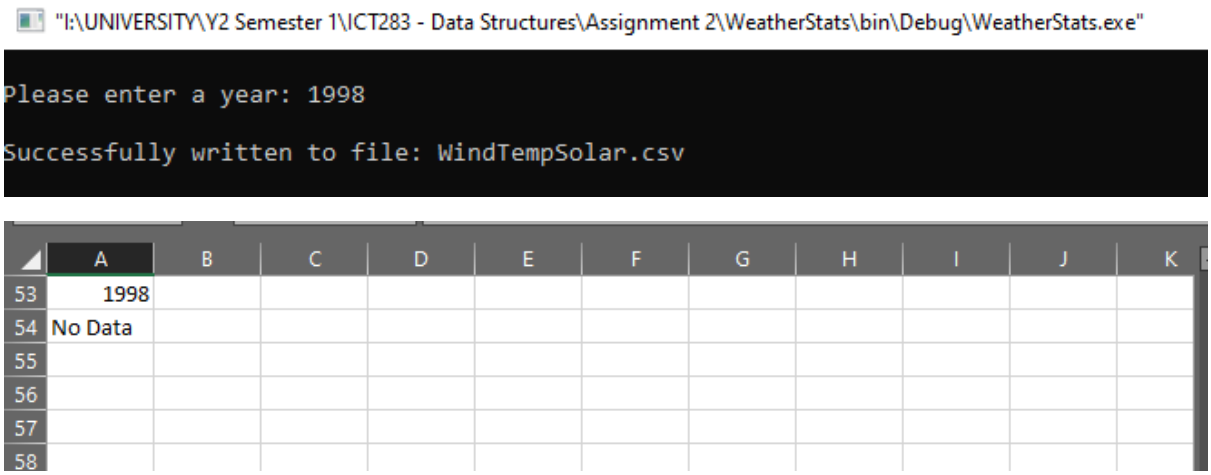
	A	B	C	D
28	2015			
29	January	21.9(9.5)	24.6(5.4)	254.7
30	February	20.2(9.8)	24.4(4.7)	197.4
31	March	20.3(9.1)	22.2(4.7)	186.5
32	April	20.9(9.9)	19.1(4.2)	125.6
33	May	16.8(10.7)	14.8(4.7)	107.1
34	June	18.0(10.4)	14.8(4.3)	81.6
35	July	16.2(9.4)	13.5(3.9)	79.4
36	August	17.7(9.9)	14.0(4.1)	101.8
37	Septembe	18.9(10.2)	15.4(5.3)	167.1
38	October	18.0(9.1)	19.0(4.8)	191.1
39	Novembe	20.2(9.5)	20.8(5.0)	239
40	Decembe	21.6(8.6)	21.9(5.6)	265.5

50

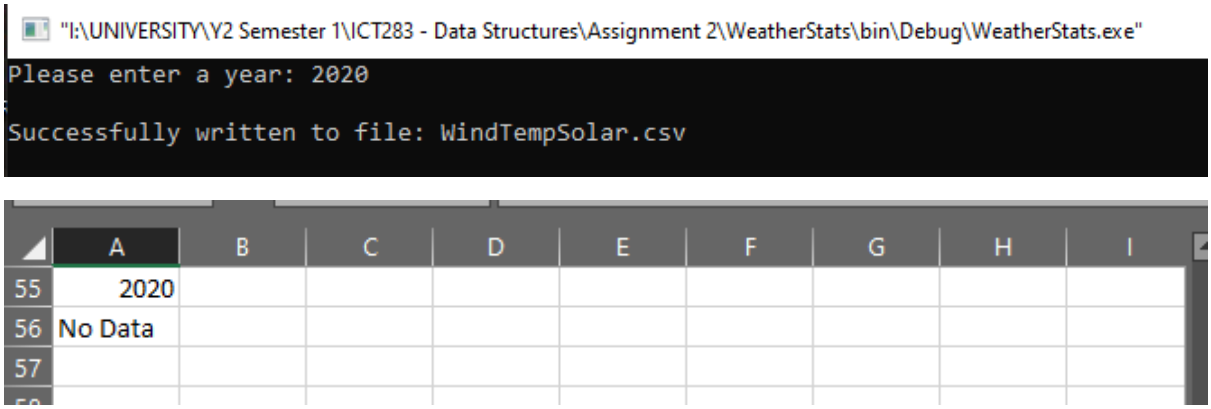


	A	B	C	D
16	2014			
17	January	9.8(7.5)	16.9(2.2)	1.2
18	March	20.3(10.9)	22.8(5.2)	183.5
19	April	13.7(9.5)	19.3(5.0)	137.4
20	May	17.1(11.2)	16.5(3.2)	86.3
21	June	4.7(8.4)	13.2(4.7)	79.5
22	July	12.7(11.0)	13.5(3.7)	84.1
23	August	19.0(10.5)	15.5(4.1)	112.3
24	Septembe	20.6(12.2)	16.1(4.0)	145
25	October	18.9(9.1)	17.8(4.7)	200.6
26	Novembe	20.3(9.0)	19.0(4.6)	220.1
27	Decembe	21.7(8.1)	21.2(5.0)	268.6

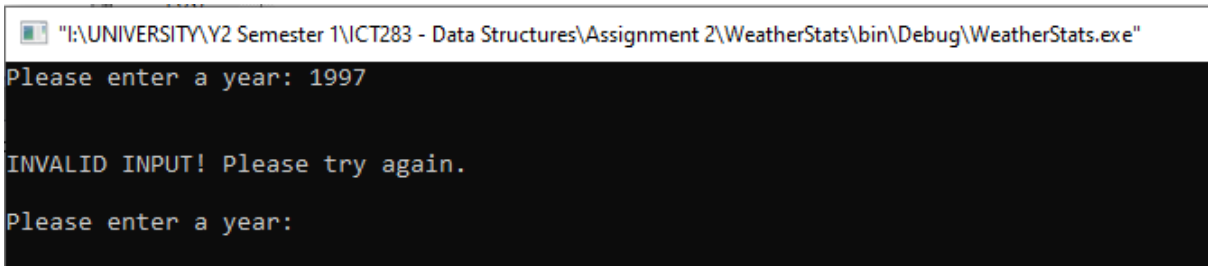
51


"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
Please enter a year: 1998
Successfully written to file: WindTempSolar.csv
A B C D E F G H I J K
53 1998
54 No Data
55
56
57
58

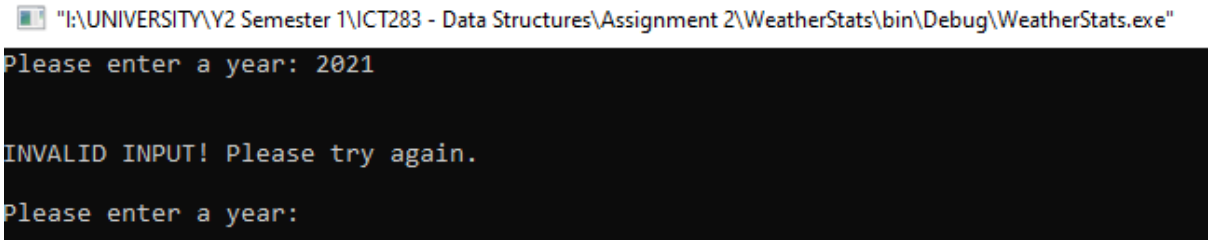
52


"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
Please enter a year: 2020
Successfully written to file: WindTempSolar.csv
A B C D E F G H I
55 2020
56 No Data
57

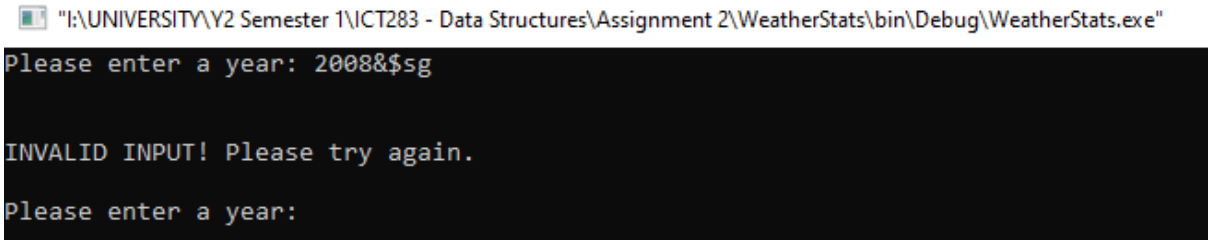
53


"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
Please enter a year: 1997
INVALID INPUT! Please try again.
Please enter a year:

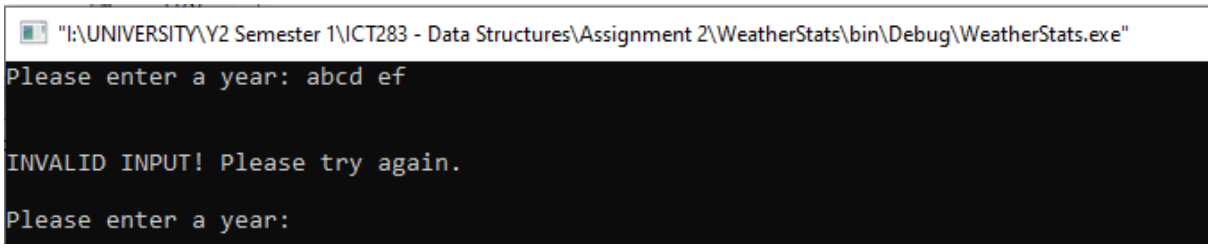
54


"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
Please enter a year: 2021
INVALID INPUT! Please try again.
Please enter a year:

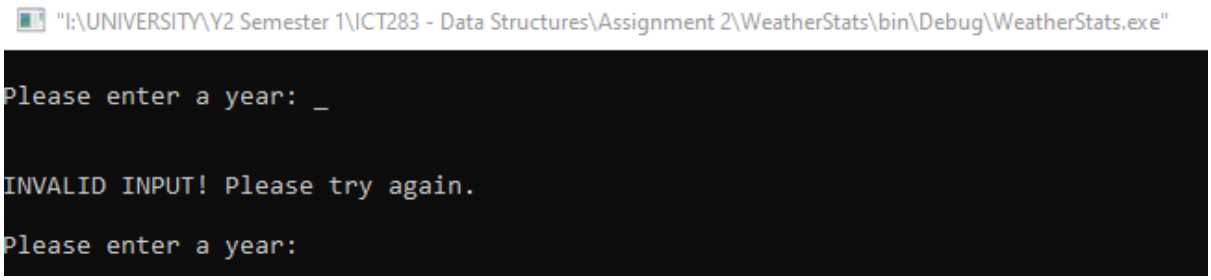
55


"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
Please enter a year: 2008&$sg
INVALID INPUT! Please try again.
Please enter a year:

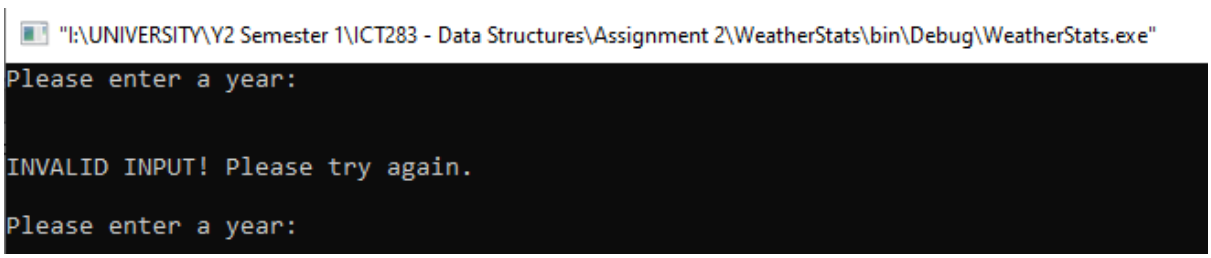
56


"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
Please enter a year: abcd ef
INVALID INPUT! Please try again.
Please enter a year:

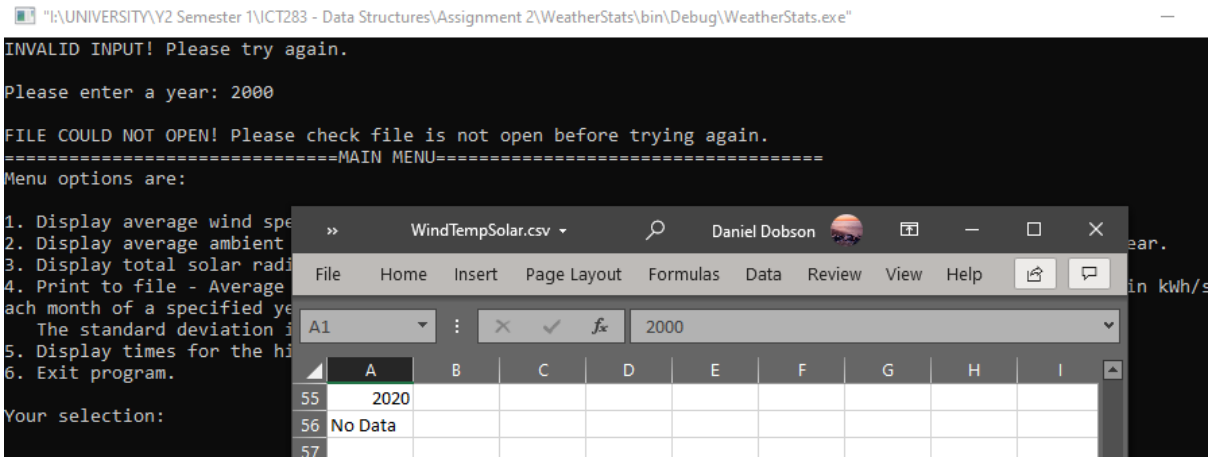
57


"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
Please enter a year: _
INVALID INPUT! Please try again.
Please enter a year:

58


"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
Please enter a year:
INVALID INPUT! Please try again.
Please enter a year:

59


"I:\UNIVERSITY\Y2 Semester 1\ICT283 - Data Structures\Assignment 2\WeatherStats\bin\Debug\WeatherStats.exe"
INVALID INPUT! Please try again.
Please enter a year: 2000
FILE COULD NOT OPEN! Please check file is not open before trying again.
==========MAIN MENU==========
Menu options are:
1. Display average wind spe
2. Display average ambient
3. Display total solar radi
4. Print to file - Average
ach month of a specified ye
The standard deviation i
5. Display times for the hi
6. Exit program.
Your selection:
WindTempSolar.csv
Daniel Dobson
File
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Insert
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Formulas
Data
Review
View
Help
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2020
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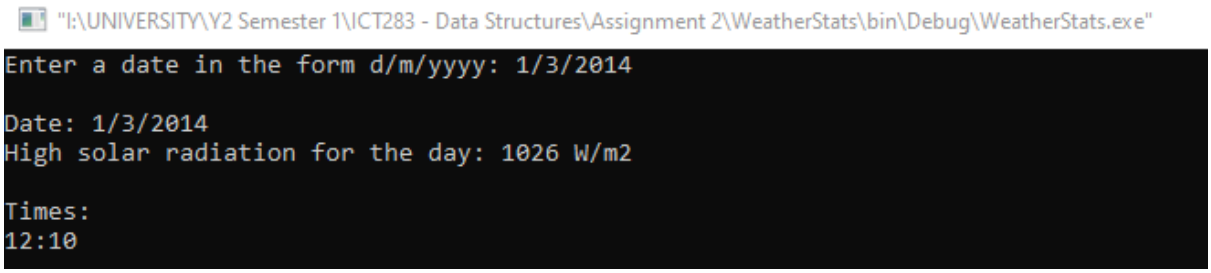

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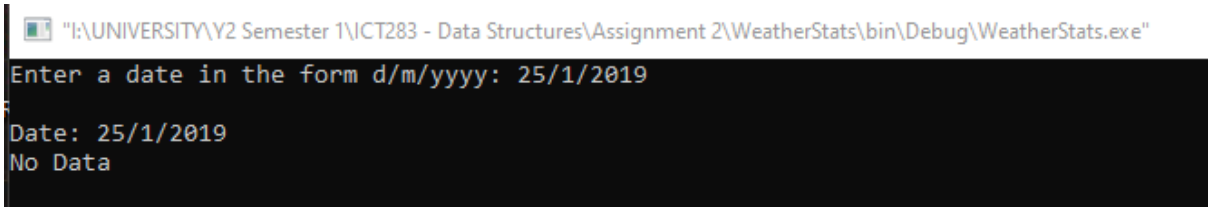

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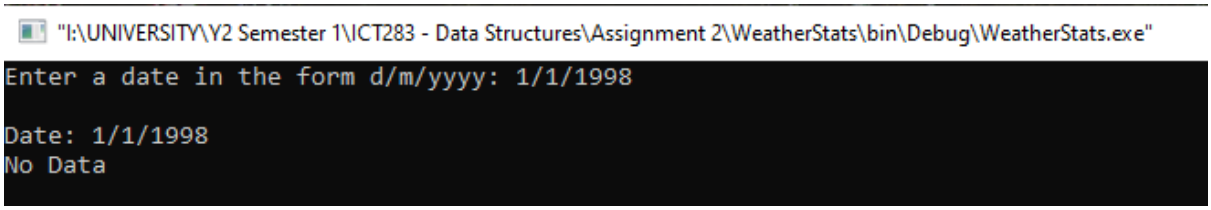

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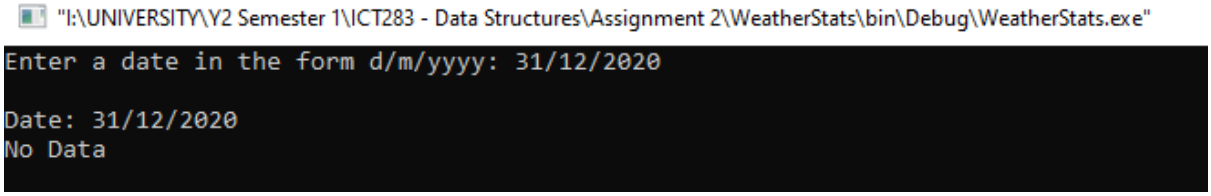

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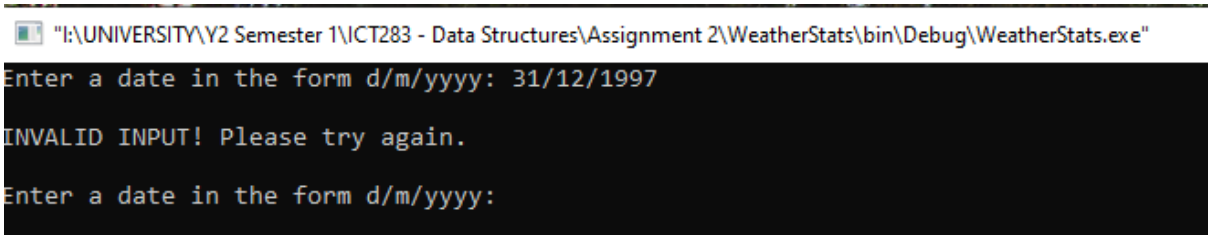

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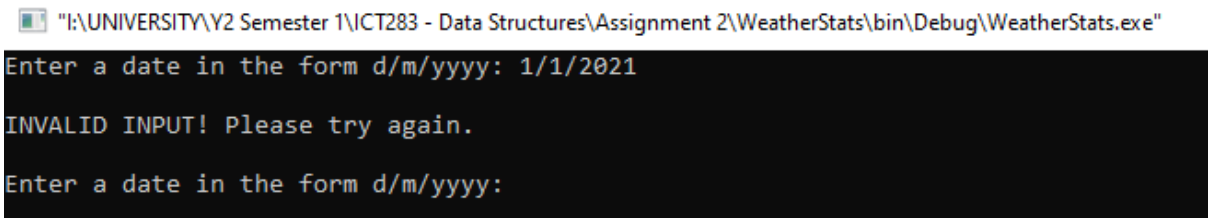
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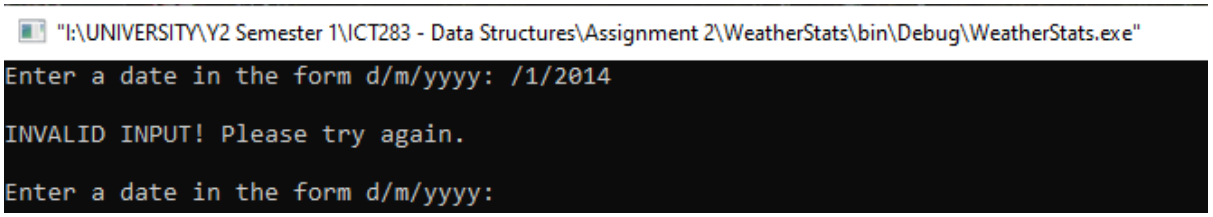
66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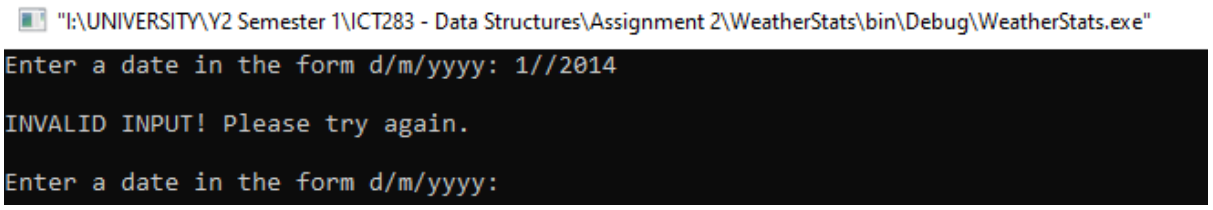
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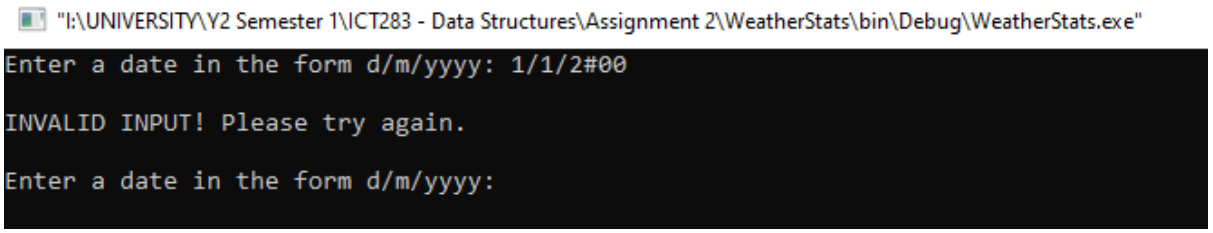
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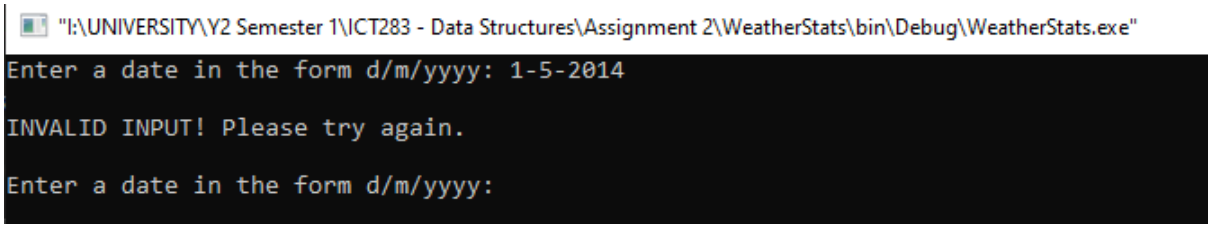
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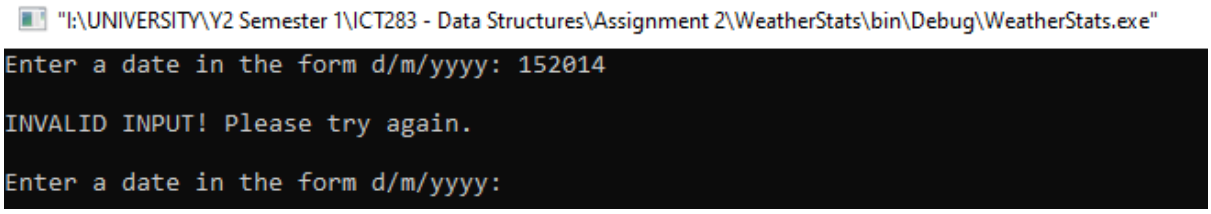

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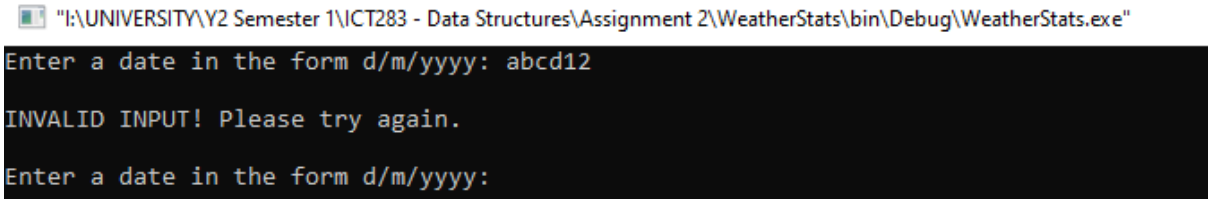

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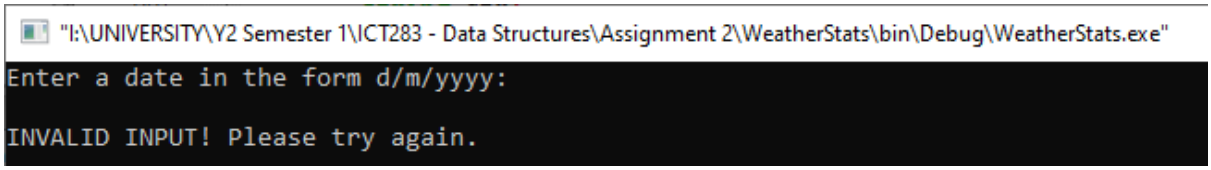

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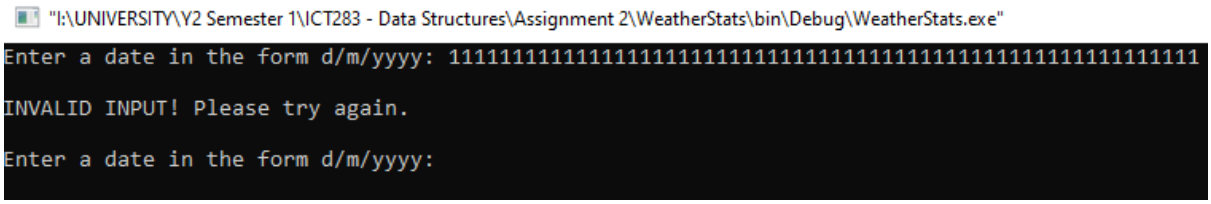

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