Lab 2 (Lesson 1 to Lesson 25)
(5 points total 0.5 points for each question)
3 test runs for each question
Control Statements(if and loops)

1. Follow the Lab instructions and video on how to submit labs.
2. Follow the steps in the Lab instructions to separate each question with question number, short description of the question.
3. For each question you must provide output for 3 test runs (use the sample test run data already provided plus the rest yourself). For each question that do not have 3 test runs a zero will be given even if the program runs correctly.
4. You must use the data in the sample test runs that are given in the question. Provide your own data whenever there is no sample run data.
5. If the program does not run a zero will be given
6. If the program runs but does not fulfill all the specifications stated in the question, a zero score will be given. Your test run must be exactly the same as the sample test run provided.
7. Use topics covered in class up till loops (Lesson 1 to Lesson 25). Using topics or tools not in Lesson 1 to Lesson 25 will result in a zero for that question. No lists, functions, dictionary.

You are not allowed to use *break or continue* in your programs. If there is a break or continue command in your program a zero will be given for that question.

1. Write a program to determine whether a person is eligible (18 years old) to vote or not. If not eligible, display how many years are left to be eligible. Assume user will only enter positive age. (use if – else)

   Sample Test Run 1
   Enter the age : **10**
   You have to wait for another 8 years to cast your vote

   Sample Test Run 2
   Enter the age : **25**
   You are eligible to cast your vote

   Sample Test run 3 (provide your own data)

2. Write a program to find whether the given number is even or odd. (use if – else)

   Sample Test Run 1
   Enter any number : **125**
   125 is odd

Sample Test Run 2
Enter any number : **12**
12 is even

Sample Test run 3 (provide your own data)

3. Write a program to determine whether the character entered is a vowel(a-e-i-o-u-A-E-I-O-U) or not. (use if-elif-else)

   Sample Test Run 1
   Enter any character : **h**
   h is not a vowel

   Sample Test Run 2
   Enter any character : **e**
   e is a vowel

   Sample Test run 3 (provide your own data)

4. Write a program to take single character input from the user and then check whether it is a number (0 to 9 only) or a character. If it is a character, determine whether it is in uppercase or lowercase. If it is a number display 'A number was entered'. The digits '0' to '9' are characters.

   Sample Test Run 1
   Enter any character : **C**
   Uppercase character was entered

   Sample Test Run 2
   Enter any character : **b**
   Lowercase character was entered

   Sample Test Run 3
   Enter any character : **2**
   A number was entered

5. Write a program to print the number of horizontal asterisks * . User input an int number. (use while loop only)

   Sample Test run 1
   How many stars you want? 20
   ****
   Sample Test Run 2 and 3 (provide your own data)

6. Write a program to calculate the property tax. User enters the lot number and property value. Must use ***while loop*** to keep entering lot and calculate value until user enters a sentinel of -999 to end program. Tax factor is 0.0065. Property tax = property value X tax factor

   Sample Test Run 1
   Enter the property lot number or enter -999 to end
   Enter the lot number : **100**
   Enter property value : **100000.00**
   Property tax : $650.00

   Sample Test Run 2
   Enter the property lot number or enter -999 to end
   Enter the lot number : **200**
   Enter property value : **5000.00**
   Property tax : $32.50

   Sample Test Run 3(this is to test if the flag -999 works to quit the loop)
   Enter the property lot number or enter -999 to end
   Enter the lot number : **-999**

7. Write a program using ***while loop*** with validation where user input wholesale prices to calculate retail prices. The markup is 2.5 times.
   Validation is to check if a value is out of range and display a message to let the user know that the value entered is an error. In this case the wholesale value cannot be less than zero.

   Sample Run 1
   Enter the item's wholesale cost: **-.50**
   ERROR: the cost cannot be negative
   Enter the correct wholesale cost: **.50**
   Retail price is $1.25
   Do you have another item? (Enter y for yes): **n**

   Sample Run 2
   Enter the item's wholesale cost: **.75**
   Retail price is $1.88
   Do you have another item? (Enter y for yes): **Y**
   Enter the correct wholesale cost: **.50**
   Retail price is $1.25
   Do you have another item? (Enter y for yes): **n**

   Sample Test Run 3 (provide your own data)

8. Write a **for loop** using range() function to print "Barzinger" 5 times.

   Sample Test Run
   BarzingerBarzingerBarzingerBarzingerBarzinger
   (one test run only for this question)

9. Write a program that uses a **for loop** to calculate the sum of numbers. The user will specify how many numbers to sum.

   Sample Run 1
   How many numbers do you want to add? **3**
   Enter number 1 : **25**
   Enter number 2 : **34**
   Enter number 3 : **33**
   The total is 92.0

   Sample Test Run 2 and 3 (provide your own data)

10. Write a program using **for loop** to convert speeds from 60kph through 130kph (in 10 kph increments) to mph. The formula: mph = kph * conversion factor where conversion factor is 0.6214.
    (one test run only for this question)
    Sample Run
    >>>

KPH	MPH
60	37.3
70	43.5
80	49.7
90	55.9
100	62.1
110	68.4
120	74.6
130	80.8