Independent University, Bangladesh

Department of Computer Science & Engineering

SUMMER 2020

Assignment 3

Due: 13-09-2020, 11.59 pm.

topic: loop

Point: 100p (10x10:100p)

|  |  |  |  |
| --- | --- | --- | --- |
| Name: Md. Al Abid Supto | Id: 1921719 | Sec: 11 | Point: |

Instructions:

1. Plagiarism will not be tolerated.

2. Do not copy from any online source or from a person.

3. If you could not do any problem, leave it blank.

4. Partial marks will be given for partially solved solutions.

5. Do not forget to fill your name, id and section. Please leave the point block as it is. Failure to fill up your name, id and section will invalid the whole assignment.

6. You also have to rename the assignment file with your id. For instance, the file name is “ID\_ Assignment 3 Summer 2020” and your id is 12345. You have to rename it as “ID\_12345\_Assignment 3 Summer 2020”. Unable to follow this instruction may lead to cancel your assignment.

Problem Set:

1. Write a program that keeps taking input (integers) until the user enters -1. (Use while or do while).

2. Write a program that keeps taking inputs (character) until the user enters a hash ‘#’.

3. Write a program that display all the even numbers between 10-20.

4. Write a program that displays the following number sequence.

2,2.25,2.50,2.75,……….,4.00

5. Take two integers from the users and display all the odd numbers between them.

|  |  |
| --- | --- |
| Input | Output |
| Enter first number: 10  Enter second number: 20 | 11,13,15,17,19 |
| Enter first number: 20  Enter second number: 20 | Nothing |

6. Write a program which takes row number as input and print following pattern:

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7. Write a program that displays the following series and computes its sum.

1+2+3+4+……+100=?

8. Write a program that displays the following series and computes its sum.

9. Write a program that counts number of digits in a given integer.

|  |  |
| --- | --- |
| Input | Output |
| Enter the number: 123 | Number of digits: 3 |
| Enter the number: 1024 | Number of digits: 4 |

10.Write a program that takes 5 inputs from the users and finds the average of even inputs only. If there is no even inputs from the user, it prints 0.

|  |  |
| --- | --- |
| Input | Output |
| Enter all 5 inputs (use tab to enter each input:  4 7 8 2 1 | Average for even numbers: 7 |
| Enter all 5 inputs (use tab to enter each input):  1 7 3 13 1 | Average for even numbers: 0 |

**Answer to the question no - 1:**

**#include <iostream>**

**using namespace std;**

**int main()**

**{**

**int in, n= -1;**

**do**

**{**

**cout<<"Enter any integer number: ";**

**cin>>in;**

**if(in != n)**

**{**

**cout<<"The input number was: "<<in<<endl<<endl;**

**}**

**}**

**while(in!= n);**

**{**

**cout<<"The programming is end. Because, you gave me this number: "<<in<<endl<<endl;**

**}**

**return 0;**

**}**

**Answer to the question no - 2:**

**#include <iostream>**

**#include <cstring>**

**using namespace std;**

**int main()**

**{**

**char in= ' ';**

**char n='#';**

**do**

**{**

**cout<<"Enter any character: ";**

**cin>>in;**

**{**

**cout<<"The input character was: "<<in<<endl<<endl;**

**}**

**}**

**while(in!= n);**

**{**

**cout<<"The programming is end. Because, you gave me this character: "<<in<<endl<<endl;**

**}**

**return 0;**

**}**

**Answer to the question no - 3:**

**#include<iostream>**

**using namespace std;**

**int main()**

**{**

**cout<<"The even number is: ";**

**for (int i = 10; i <= 20; i++)**

**{**

**if(i%2 == 0)**

**{**

**cout<<i<<" ";**

**}**

**}**

**return 0;**

**}**

**Answer to the question no - 4:**

**#include<iostream>**

**using namespace std;**

**int main ()**

**{**

**float i=2.00, x=4.00;**

**for( i=2.00; i<=x ; i+=0.25)**

**{**

**if (i<x)**

**{**

**cout<<i<<", ";**

**}**

**else**

**{**

**cout <<x;**

**}**

**}**

**return 0;**

**}**

**Answer to the question no - 5:**

**#include<iostream>**

**using namespace std;**

**void Odd(int x, int y)**

**{**

**for(int i=x; i<=y; i++)**

**{**

**if(i % 2 != 0)**

**{**

**if(i==y || i== y-1)**

**{**

**cout<<i<<" ";**

**}**

**else**

**cout<<i<<", ";**

**}**

**}**

**}**

**int main ()**

**{**

**int x, y;**

**cout<<"Enter the 1st digit: ";**

**cin>>x;**

**cout<<"Enter the 2nd digit: ";**

**cin>>y;**

**if(x == y)**

**{**

**cout<<"Nothing";**

**}**

**else**

**Odd(x, y);**

**return 0;**

**}**

**Answer to the question no - 6:**

**#include <iostream>**

**using namespace std;**

**void patten(int in)**

**{**

**for (int r=in; r>=1; r=r-2)**

**{**

**for (int c=in; c>=1; c--)**

**{**

**if(r >= c)**

**{**

**cout<<"\*";**

**}**

**else**

**{**

**cout<<" ";**

**}**

**}**

**cout<<endl;**

**}**

**}**

**int main()**

**{**

**int in;**

**cout <<" Enter any digit: ";**

**cin >> in;**

**patten(in);**

**return 0;**

**}**

**Answer to the question no - 7:**

**#include<iostream>**

**using namespace std;**

**int main()**

**{**

**int sum=0;**

**for(int i=1; i<=100; i++)**

**{**

**sum = sum + i;**

**if (i<100)**

**{**

**cout<<i<<" + ";**

**}**

**else**

**cout<<i<<" = ";**

**}**

**cout<<sum;**

**return 0;**

**}**

**Answer to the question no - 8:**

**#include <iostream>**

**#include <cmath>**

**using namespace std;**

**void display(int n, float sum, float result)**

**{**

**for(int i=2; i<=n; i++)**

**{**

**result = 1/sqrt(i);**

**sum = sum + result;**

**}**

**cout<<"Result is: "<<1+sum;**

**}**

**int main()**

**{**

**int n;**

**float sum=0, result;**

**cout<<"Enter any digit: ";**

**cin>>n;**

**display(n, sum, result);**

**return 0;**

**}**

**Answer to the question no - 9:**

**#include <iostream>**

**using namespace std;**

**int main()**

**{**

**int in, x;**

**int cnt=0;**

**cout<<"Enter the number: ";**

**cin >>in;**

**x = in;**

**while(x != 0)**

**{**

**cnt++;**

**x /= 10;**

**}**

**cout<<endl<<"Number of digits: "<<cnt<<endl;**

**return 0;**

**}**

**Answer to the question no - 10:**

**#include<iostream>**

**using namespace std;**

**int main()**

**{**

**int x, sum=0, evn=0;**

**float avg=0;**

**cout<<"Enter any 5 digit: "<<endl;**

**for(int i=1; i<=5; i++)**

**{**

**cin>>x;**

**if( x % 2 == 0 )**

**{**

**sum+=x;**

**evn++;**

**}**

**}**

**avg = float(sum)/evn;**

**cout<<"Average for even numbers: "<<avg;**

**return 0;**

**}**