

C++ ASSIGNMENTS LOOPS 2

Q1. Predict the output

```
#include <bits/stdc++.h>
using namespace std;
int main() {
    while ('1' < '2')
        cout << "In while loop" << endl;
}
```

output
In while loop In while loop In while loop In while loop In while loop
This code will generate infinite loop which print { In while loop} infinite time

Q2. Predict the output

```
#include <bits/stdc++.h>
using namespace std;
int main( ) {
    int t = 10;
    while (t != 2) {
        cout << "Hello" << endl;
    }
}
```

output
Hello Hello Hello Hello Hello
This code will generate infinite loop which print { Hello} infinite time

Q3. Predict the output

```
#include <bits/stdc++.h>
using namespace std;
int main( ) {
    for (int x = 1; x * x ≤ 10; x++)
        cout << "In for loop" << endl;
}
```

output
In for loop
In for loop
In for loop

Q4. Predict the output

```
#include <bits/stdc++.h>
using namespace std;
int main( ) {
    int x = 10, y = 0 ;
    while ( x ≥ y ) {
        x-- ;
        y++ ;
        cout << x << " " << y << endl ;
    }
}
```

output
9 1
8 2
7 3
6 4
5 5

Q5. WAP to print the sum of all the even digits of a given number.

Sample Input : 4556

Output: 10

```
#include<iostream>
using namespace std;
int main(){
    int n, s = 0, rm;
    cout << "Enter a number : " << endl;
    cin>> n;
    while(n>0){
        rm = n % 10;
        if(rm%2==0){
            s = s + rm;
        }
        n = n/10;
    }
    cout << "Sum is : "<< s;
}
```

```
PS C:\Users\ITC\OneDrive\Desktop\C++WITH DSA\PRACTICE c++with DSA> cd "c:\Users\ITC\OneDrive\Desktop\C++WITH DSA\PRACTICE c++with DSA\" ; if ($?) { g++ assignmentprint2.cpp -o assignmentprint2 } ; if ($?) { .\assignmentprint2 }
Enter a number :
4556
Sum is : 10
```

Q6. WAP to print the sum of a given number and its reverse.

Sample Input : 12

Sample Output : 33 [12+21]

```
#include<iostream>
using namespace std;
int main(){
    int n ,rv = 0,rm = 0; //n-number ,rv-reverse
    number,rm-reminder
    cout << "Enter a number : " << endl;
    cin>> n;
    int a = n;
    while(n>0){
        rm = n % 10 ;
        rv = rv*10 + rm;
        n = n/10;
    }
    cout << "Sum of " << a << " and " << rv << " is :
" << a+rv;
}
```

```
ve\Desktop\C++WITH DSA\PRACTICE c++with DSA\" ; if ($?) { g++ assignmentprint2.cpp -o assi
gnmentprint2 } ; if ($?) { .\assignmentprint2 }
Enter a number :
12
Sum of 12 and 21 is : 33
```

Q7. Print the factorials of first 'n' numbers

Sample Input : 10

Output :

1

2

6

24

120

720

5040

40320

362880

3628800

```
#include <iostream>
using namespace std;
int main()
{
    int n, fact = 1;
    cout << "Enter a number : " << endl;
    cin >> n;
    for (int i = 1; i <= n; i++)
    {
        fact = fact * i;
        cout << fact<<endl;
    }
}
```

```
PS C:\Users\ITC\OneDrive\Desktop\C++WITH DSA\PRACTICE c++with DSA> cd "c:\Users\ITC\OneDrive\Desktop\C++WITH DSA\PRACTICE c++with DSA\" ; if ($?) { g++ assignmentprint2.cpp -o assignmentprint2 } ; if ($?) { .\assignmentprint2 }
```

Enter a number :

10

1

2

6

24

120

720

5040

40320

362880

3628800

Q8. Print first 'n' fibonacci numbers.

Sample Input : 10

Output : 1 1 2 3 5 8 13 21 34 55

```
#include <iostream>
using namespace std;
int main()
{
    int n;
    cout << "Enter a number : " << endl;
    cin >> n;
    int fn = 1, fn1 = 1, fn2 = 0;
    for (int i = 1; i <= n; i++)
    {
        cout << fn << endl;
        fn = fn1 + fn2;
        fn2 = fn1;
        fn1 = fn;
    }
}
```

Enter a number :

10
1
1
2
3
5
8
13
21
34
55

Q9. Write a program to print out all Armstrong numbers between 1 and 500. If the sum of cubes of each digit of the number is equal to the number itself, then the number is called an Armstrong number. For example, $153 = (1 * 1 * 1) + (5 * 5 * 5) + (3 * 3 * 3)$

Output :

1
153
370
371
407

```
#include<iostream>
Using namespace std;
int main(){

}
}
```