**C++ Assignment Solutions | Loops-2 | Week 3**

Q1. Predict the output

#include <bits/stdc++.h>

using namespace std;

int main() {

while ('1' < '2')

cout << "In while loop" << endl;

}

ANS: // Infinite Loop

In while loop

In while loop

In while loop

In while loop

In while loop

In while loop

In while loop

In while loop

In while loop

In while loop

.

Q2.Predict the output

#include <bits/stdc++.h>

using namespace std;

int main( ) {

int t = 10;

while (t /= 2) {

cout << "Hello" << endl;

}

}

ANS: Hello

Hello

Hello

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; }

ANS: 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 ;

}

}

ANS: 91

82

73

64

55

46

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

Sample Input : 4556

Output: 10

ANS:

#include <iostream >

using namespace std;

int main( ) {

int n;

cin >> n;

int sum = 0;

while (n > 0) {

int x = n % 10;

sum += (x % 2 == 0 ? x : 0);

n /= 10;

}

cout << sum;

}

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

Sample Input : 12

Sample Output : 33 [12+21]

ANS:

#include <iostream>

using namespace std;

int main( ) {

int n;

cin >> n;

int temp = n, x = 0;

while (temp > 0) {

x \*= 10;

x += (temp % 10);

temp /= 10;

}

cout << n + x << endl;

}

Q7.https://lh4.googleusercontent.com/8pHxD2ev4bZTHxowcwkcJAOVoDAe3mh4LDLtc8NbZ3eOP_NZMCT3i07bII2lh_wHeva1lcK8a6tpxh9e0O414NyA8FbSAYqw7VFuDDUyeJl2qbYhp6DihFFNH15bFtHLtbMGtU5NiM8oJ2RH-R4PiVwPrint the factorials of first ‘n’ numbers ,

Ans:

#include <iostream>

using namespace std;

int main( ) {

int n;

cin >> n;

int f = 1;

for (int i = 1; i <= n; i++) {

f \*= i;

cout << f << endl;

}

}

Q8.Print first ‘n’ fibonacci numbers.

ANS:

#include <iostream>

using namespace std;

int main( ) {

int n;

cin >> n;

int f0 = 1, f1 = 1;

cout << f0 << " " << f1 << " ";

for (int i = 3; i <= n; i++) {

int next = f0 + f1;

cout << next << " ";

f0 = f1;

f1 = next;

}

}

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

Ans:

#include <bits/stdc++.h>

using namespace std;

int main( ) {

for (int i = 1; i <= 500; i++) {

int x = 0, temp = i;

while (temp > 0) {

int m = temp % 10;

x += m \* m \* m;

temp /= 10;

}

if (i == x) {

cout << i << endl;

}

}

}