**Q1**

* In a counter-controlled while loop it's not necessary to initialize the loop control variable (**false**)
* it is pissible that the body of a while loop may not execute at all (**true**)
* In an infinite while loop, the while expression (the decision maker) is initially false, but after the first iteration it is always true (**true**)
* The while loop: terminates if j > 10 (**true**)

j = 0;

while (j <= 10)

j++

* A sentinel-controlled while loop is an event-controlled while loop whose termination depends on a special value (**true**)
* A loop is a control structure that causes certain statements to execute over and over (**true**)

**Q2**

* What is the output of the following C++ code ?

#include <iostream>

using *namespace* std;

*void* main() {

*int* i = 0;

*int* temp = 1;

while (i < 5) {

i = i + 1;

temp = temp \* i;

}

cout << "i = " << i << " and temp = " << temp << endl;

}

**Answer:**

Error, the main cannot return **void**, it must return **int**

* Suppose that the input is **10 30 16 25 76 -1.** What is the output of the following code?

#include <iostream>

using *namespace* std;

*int* main(){

*// inputs are 10 30 16 25 76 -1*

*int* num = 0;

*int* sum;

*int* count = 0;

cin >> sum; *// 10*

while (count < 3){

cin >> num; *// 30, 16, 25,*

sum = sum + num; *// 40, 56, 81*

count++; *// 1, 2, 3*

}

cout << "Sum = " << sum << endl; *// 81*

}

**Answer:**

Sum = 81

* Suppose that the input is **25 36 18 16 -1.** What is the output of the following code?

#include <iostream>

using *namespace* std;

*int* main(){

*// input are 25 36 18 16 -1*

*int* num;

*int* sum;

cin >> sum; *// 25*

num = sum;

while (num != -1){

cin >> num; *// 36, 18, 16, -1*

sum = sum + num; *// 61, 79, 95, 94*

}

cout << "Sum = " << sum << endl; *// 94*

}

**Answer:**

Sum = 94

* Suppose that the input is **25 36 18 16 -1.** What is the output of the following code?

#include <iostream>

using *namespace* std;

*int* main() {

*// input are 25 36 18 16 -1*

*int* num;

*int* sum;

cin >> num; *// 25*

sum = num; *// 25*

while (num != -1) {

sum = sum + num; *//50, 86, 104, 120,*

cin >> num; *// 36, 18, 16, -1*

}

cout << "Sum = " << sum << endl; *// 120*

}

**Answer:**

Sum = 120

* Suppose that the input is **10 -6 12 -5 -4 0**. What is the outptut of the following code?

**Answer:**

#include <iostream>

using *namespace* std;

*int* main() {

*// input are 10 -6 12 -5 -4 0*

*int* num;

*int* sum = 0;

cin >> num; *// 10*

while (num != 0) {

if (num > 0)

sum = sum + num;

else

sum = sum - num;

*// sum: 10, 16, 28, 33, 37*

cin >> num; *// -6, 12, -5, -4, 0*

}

cout << "Sum = " << sum << endl; *// 37*

}

* Correct the following code so that it reads and finds the sum of 20 numbers

#include <iostream>

using *namespace* std;

*int* main(){

*int* count = 0;

*int* sum = 0;

cin >> num;

while(count <= 20);

{

cin >> num;

count++;

sum = sum + count;

}

}

**Answer:**

#include <iostream>

using *namespace* std;

*int* main() {

*int* count = 1;

*int* sum = 0;

*int* num;

while (count <= 20) {

cin >> num;

sum += num;

count++;

}

cout << sum << endl;

}