Name: _____   Adm. No.: _____   Class: _____

Duration: 90 min   **Lab Test 3 (Sample)**   Marks: _____

Part 1 – Short Questions   **(8 marks each)**

1. Determine the output of the following code segment: (s is an integer)

```
s=0;
for (i = 0; i < 3; i++) s = 2 * s + i;
cout << s;
```

    Ans: _____

2. Determine the output of the following code segment:

```
char alpha = 'A';        // ASCII Code of 'A' is 65
do
{
        cout << alpha;
        alpha++;
} while (alpha <= 67);
```

    Ans: _____

3. What is the value of integer x after the following code segment is executed?

```
for (x=-2; x<=2; x++) {}
```

    Ans: _____

4. What is the value of integer y after the following code segment is executed?

```
y=5;
while(y<8)
{
        y += 1;
}
```

    Ans: _____

5. Fill in the missing code in the following code segment: (X is an integer)

```
cin >>X;
while (_____)
{
        cout << "You have entered an even number." << endl;
        cin >> X;
}
```

Part 2 – Debugging   (20 marks)

Login to Blackboard and download the C++ source code. Your password is **12345**

There are **5 lines with 1 or more errors**. Write the corrected statements in the space provided below:

Use the following results to verify the program after your debugging.

```
Number Guessing Game
====================
Guess a number between 0 to 999
Enter a number: 100
Attempt: 1 - Too small!
Enter a number: 200
Attempt: 2 - Too small!
Enter a number: 300
Attempt: 3 - Too small!
Enter a number: 400
Attempt: 4 - Too small!
Enter a number: 500
Attempt: 5 - Too big!

Try harder next time!

You want to play again(Y/N)?y
Enter a number:
```

```
Number Guessing Game
====================
Guess a number between 0 to 999
Enter a number: 100
Attempt: 1 - Too small!
Enter a number: 200
Attempt: 2 - Too small!
Enter a number: 300
Attempt: 3 - Too small!
Enter a number: 400
Attempt: 4 - Too small!
Enter a number: 500
Attempt: 5 - Too big!

Try harder next time!

You want to play again(Y/N)?n
```

```
Number Guessing Game
====================
Guess a number between 0 to 999
Enter a number: 100
Attempt: 1 - Too small!
Enter a number: 900
Attempt: 2 - Too big!
Enter a number: 456

Correct! You are good!
```

Line Number   Corrected Statement

_____   _____

_____   _____

_____   _____

_____   _____

_____   _____

Part 3 – Coding   (40 marks)

Write a C++ program to repeatedly ask user to enter an integer number from the keyboard. It will stop requesting user input when user enters a terminating number. The program will calculate the sum of all the entered numbers and display it. Make sure your codes are indented properly and you give meaningful names to the variables. Your lecturer will tell you how to upload the source code at the end of the test.

Loop to use	Terminating number	Target number
~~While~~ / For / ~~Do-While~~ (Cancel any two)	-1	All numbers

```
Loop to use: For
Terminating number: -1
Target type: All numbers
=============================

Enter a number: 1
Enter a number: 3
Enter a number: 10
Enter a number: -2
Enter a number: -1

Sum of all numbers = 11
```

Use the following display format. You have to implement the given loop with the correct terminating and target number.

~ End ~