**ITCS 1212L**

**Pre-Lab 6**

# Iteration structures (Loops)

**Learning Objectives:**

* **Learning about different types of iteration structures (Loops)**
* **Learn how to generate random numbers.**

1. **Answer the following questions by filling the blanks:**
2. A block of code that repeats forever is called \_\_\_\_\_\_\_\_\_\_\_.
3. To keep track of the number of times a particular loop is repeated, one can use a(n) \_\_\_\_\_\_\_\_\_\_\_.
4. An event controlled loop that is always executed at least once is the \_\_\_\_\_\_\_\_\_\_\_.
5. An event controlled loop that is not guaranteed to execute at least once is the \_\_\_\_\_\_\_\_\_\_\_
6. A loop within a loop is called a \_\_\_\_\_\_\_\_\_\_\_.
7. To write out the first 12 positive integers and their cubes, one should use a(n) \_\_\_\_\_\_\_\_\_\_\_ loop.
8. A(n) \_\_\_\_\_\_\_\_\_\_\_ value is used to indicate the end of a list of values.

It can be used to control a while loop.

1. In a nested loop the loop goes through all of its iterations for each iteration of the loop. (Choose inner or outer for each blank.)

Not sure what the question 1 h is asking. Need to remove or replace it.

Can be replaced by:

In a nested loop the loop goes through all of its iterations for each iteration of the loop. True or False? \_\_\_\_\_\_\_\_\_\_\_

1. What is the purpose of using a loop?
2. Which of the followings is not a nested loop?

a. for(i=0;i<10;i++)  
        for(j=1;j<i+2;j++)

b. for(i=0;i<10;i++)  
       cout<<"i="<<i;   
    for(j=1;j<i+2;j++)

cout<<"j="<<j;

c. for(i=0;i<10;i++)  
        while(j%2!=0){

cout<<j<<"\t";

j++;

}

1. Trace the following program and write the output if the input is 6.

#include <iostream>

using namespace std;

int main ()

{

int n;

cout << "Enter the starting number > ";

cin >> n;

while (n++<=10) {

cout << n << ", ";

n++;

}

cout << "FIRE!\n";

return 0;

}

1. What is the output of the following program?

#include <stdio.h>

#include <stdlib.h>

#include <time.h>

int main ()

{

srand (time(NULL));

printf ("Random number: %d\n", rand() % 100);

srand (1);

return 0;

}