

Exercise # 7 (14-11-2001)

Exercise 1:

Define the following terms:

- Loop Entry
- Iteration
- Loop Test
- Loop Exit
- Termination Condition

Exercise 2:

What is the output of this nested loop structure?

```
i = 4;
while (i >= 1)
{
    j = 2;
    while (j >= 1)
    {
        cout << j << ' ';
        j--;
    }
    cout << i << endl;
    i--;
}
```

Exercise 3:

The following code segment is supposed to write out the even numbers between 1 and 15. (n is an int variable). It has two flaws in it.

```
n = 2;
while (n != 15)
{
    n = n + 2;
    cout << n << ' ';
}
```

- What is the output of the code as written?
- Correct the code so that it works as intended.

Exercise 4:

Given the following for loop:

```
for (k = 9; k <= 21; k++)  
    cout << k << ' ' << 3*k << endl;
```

- Rewrite the loop using a do-while loop.
- Rewrite the loop using a while loop.

Exercise 5:

What is printed by the following program fragment? (All variables are of type int.)

```
for (k = 4; k >= 1; k--)  
{  
    for (j = k; j >= 1; j--)  
        cout << j << ' '  
        cout << k << endl;  
}
```

Exercise 6:

What is printed by the following program fragment, assuming the input value is 0? (All variables are of type int.)

```
cin >> n;  
j = 1;  
do  
{  
    cout << j;  
    j++;  
} while (j <= n);
```