



Department of Computer Science

CS118 – Programming Fundamentals



Class Task

Name: _____ Roll No: _____ Section: _____

Question	1	2	3	4	5	Total
Points	12	06	08	20	10	56
Score						



Task 1:

State what output, if any, results from each of the following statements:

- a.

```
for (i = 1; i <= 1; i++)  
    cout << "*";  
    cout << endl;
```
- b.

```
for (i = 2; i >= 1; i++)  
    cout << "*";  
    cout << endl;
```
- c.

```
for (i = 1; i <= 1; i--)  
    cout << "*";  
    cout << endl;
```
- d.

```
for (i = 12; i >= 9; i--)  
    cout << "*";  
    cout << endl;
```
- e.

```
for (i = 0; i <= 5; i++)  
    cout << "*";  
    cout << endl;
```
- f.

```
for (i = 1; i <= 5; i++)  
{  
    cout << "*";  
    i = i + 1;  
}  
cout << endl;
```

Task 2:

To learn how nested for loops work, do a walk-through of the following program segments and determine, in each case, the exact output.

- a.

```
int i, j;  
for (i = 1; i <= 5; i++)  
{  
    for (j = 1; j <= 5; j++)  
        cout << setw(3) << i;  
    cout << endl;  
}
```



```
b. int i, j;
   for (i = 1; i <= 5; i++)
   {
       for (j = (i + 1); j <= 5; j++)
           cout << setw(5) << j;
       cout << endl;
   }
```

```
c. int i, j;
   for (i = 1; i <= 5; i++)
   {
       for (j = 1; j <= i; j++)
           cout << setw(3) << j;
       cout << endl;
   }
```

Task 3:

What is the output of the following program segment?

```
a. int count = 0;
   while (count++ < 10)
       cout << "This loop can repeat statements." << endl;
```

```
b. int count = 5;
   while (--count > 0)
       cout << count << " ";
   cout << endl;
```

```
c. int count = 5;
   while (count-- > 0)
       cout << count << " ";
   cout << endl;
```

```
d. int count = 1;
   while (count++ <= 5)
       cout << count * (count - 2) << " ";
   cout << endl;
```



Task 4:

To learn how nested for loops work, do a walk-through of the following program segments and determine, in each case, the exact output.

```
a. int i, j;
for (i = 1; i <= 5; i++)
{
    for (j = 1; j <= 5; j++)
        cout << setw(3) << i;
    cout << endl;
}

b. int i, j;
for (i = 1; i <= 5; i++)
{
    for (j = (i + 1); j <= 5; j++)
        cout << setw(5) << j;
    cout << endl;
}

c. int i, j;
for (i = 1; i <= 5; i++)
{
    for (j = 1; j <= i; j++)
        cout << setw(3) << j;
    cout << endl;
}

d. const int M = 10;
const int N = 10;
int i, j;
for (i = 1; i <= M; i++)
{
    for (j = 1; j <= N; j++)
        cout << setw(3) << M * (i - 1) + j;
    cout << endl;
}

e. int i, j;
for (i = 1; i <= 9; i++)
{
    for (j = 1; j <= (9 - i); j++)
        cout << " ";
    for (j = 1; j <= i; j++)
        cout << setw(1) << j;
    for (j = (i - 1); j >= 1; j--)
        cout << setw(1) << j;
    cout << endl;
}
```

<Output>

Task 6:

Write the code to print the following pattern. User will enter the number of rows

Enter number of rows: 6

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