

CS111 FALL 2019 Lab Quiz 2 Answers

NAME _____ CUNYID _____

SECTION 2 – What is the loop output? 5 Points Each

Instructions: Write the output for each for each loop below.

For endless loops, write the first outputted character then three dots i.e. “2...”.

If there is no output write “No Output”.

```
Q1)
int i = 1;
while (true)
{
    i++;
    if (i < 7)
        continue;
    i *= 2;
    cout << i << " ";
    if (i > 20)
        break;
}
cout << endl;
```

Q1 14 30 _____

```
Q2)
for (int i = 10; i > -5; i++)
{
    cout << i << " " << endl;
}
}
```

Q2 10... _____

```
Q3)
bool b = false;
int i = 0;
do
{
    i++;
    cout << i << " ";
    b = i % 5;
} while (b);
```

Q3 1 2 3 4 5 _____

Q4)

```
int i = 1;
while (i*i <= 16)
{
    cout << i << " ";
    i++;
}
cout << endl;
```

Q4 1 2 3 4

Q5)

```
bool a = true, b = false;
int x = 1;
while (a || b)
{
    x++;
    a = x % 3 == 0 ? false : true;
    cout << x << " ";
}
cout << endl;
```

Q5 2 3

SECTION 2 – Programming 10 Points Each

P1)

Use the conditional operator (the ? operator) to write the Absolute function

Usage: Absolute(100)=> 100 Absolute(-100)=> 100

```
double Absolute(double d)
{
    return(d < 0 ? -d : d);
}
```

P2)

Use the conditional operator (the ? operator) to write the Max function.

Usage: Max(1,2)=> 2 Max(2,2)=> 2

```
double Max(double d1,double d2)
{
    return(d1 > d2 ? d1 : d2);
}
```

P3)

Write a Swap function that swaps the integer values passed to it.

Usage:

```
int x = 1, y = 2;
```

```
Swap(x,y);
```

```
cout << x << " " << y ==> "2 1"
```

```
void Swap(int &i1, int &i2)
{
    int temp = i1;
    i1 = i2;
    i2 = temp;
}
```

P4)

DrawSquare - Write a function that draws a square of width and height of length "Size". For example, DrawSquare(10) will draw the square below.

Algorithm - For first and last columns and first and last rows draw a 'X' otherwise draw a space. Separate rows by using an end line.

```
XXXXXXXXXX
```

```
X          X
```

```
X          X
```

```
X          X
```

```
X          X
```

```
X          X
```

```
X          X
```

```
X          X
```

```
X          X
```

```
XXXXXXXXXX
```

```
void DrawSquare(int size)
```

```
{  
    for (int row = 1; row <= size; row++)  
    {  
        for (int col = 1; col <= size; col++)  
        {  
            if (row == 1 || row == size || col == 1 || col == size)  
                cout << "X";  
            else  
                cout << " ";  
        }  
        cout << endl;  
    }  
}
```