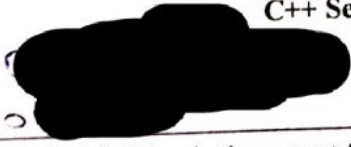


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King Abdulla II School for Information Technology
Computer Science Department
C++ Second Exam

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Section: 8-79
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Question 1 (10 points) What is the output for each of the following programs? If the program results in an infinite loop, write (INF) in the box next to it. Assume all necessary libraries are included. Note: There is no syntax errors in the codes

<p>1. (3 Points)</p>	<pre>int n=10; // Global void f1(int); void f2(int&); void main() { f1(5); int n=2; // local f2(n); cout<<n<<endl; // Line 1 } void f1(int n) { cout<<n<<endl; // Line 2 } void f2(int& x) { cout<<n<<endl; // Line 3 n++; } }</pre>	<p>2 10 10 ~</p>
<p>2. (2 Points)</p>	<pre>int n=3; void main() { while(n++ <= 3) cout<<n<<endl; cout<<n<<endl; { int n=5; cout<<n++<<endl; } cout<<n-1<<endl; } }</pre>	<p>3 3 6 2 ~</p>
<p>3. (2 Points)</p>	<pre>void main() { int x=5; while(x = 3) for(int i=1; i<=2; i++) if(i == 2 % x) break; else { cout<<x<<endl; continue; } cout<<x<<endl; } }</pre>	<p>5 ~</p>

4. (2 Points)	<pre> int f1(int x=1, int y=2); int f2(int); void main() { int n=5; do { if(f1(n)) cout<<1<<endl; } while(0); cout<<f1()<<endl; cout<<f1(n, 10)<<endl; } int f1(int x, int y) { return f2(x)/f2(y); } int f2(int a) { return a%4; } </pre>	<p>1 2 10</p> <p>~</p>
5. (1 Point)	<pre> int x=10; void f(int&); void main() { f(x); cout<<x<<endl; } void f(int& n) { x++; n++; } </pre>	<p>11</p> <p>~</p>

Question 2 (10 points) Write a complete C++ program which consists of two functions **main** and **RectangleArea**.

main: Reads width and length of a rectangle, passes them to **RectangleArea** function, and prints the area returned from **RectangleArea**. If the user inputs negative values, your code should print this message to the user "INPUT ERROR" and ask the user to reenter the values.

RectangleArea: Computes and returns the rectangle area calculated as: $\text{area} = \text{width} * \text{length}$.

Sample run:
Enter rectangle width: 4.8
Enter rectangle length: -2.0
INPUT ERROR
Enter rectangle length: 2.0
Area = 9.6

Q

Use this paper sheet to answer Question 2:

```
#include <iostream>
#include <math>
using namespace std;

int RectangleArea (Double W, Double l);
int Area = 0;
void Main()
{
cout
cout
    cout << "Enter rectangle width" << endl;
    cin >> W;
    cout << Enter endl << "Enter rectangle length" <<
    endl;
    cin >> l;

    RectangleArea ( W, l )
    cout << Area << endl;
}

RectangleArea (Double W, l)
{
    return
    Area = W * l;
}
```

```
# include <iostream>
```

```
# include <cmath>
```

```
using namespace std;
```

```
double Area = 0;
```

```
double RectangleArea ( double w, double l );
```

```
void main ( )
```

```
{ w, l
```

```
RectangleArea ( w, l );
```

```
cout << "Area is" << Area;
```

```
}
```

```
double RectangleArea ( w, l )
```

```
{ Area = 0
```

```
while ( w >= 1 )
```

```
{ cout << "Enter width" << endl;
```

```
cin >> w
```

```
cout << endl
```

```
while ( l >= 1 )
```

```
{ cout << "Enter length" << endl;
```

```
cin >> l
```

```
}
```

```
return
```

```
Area = w * l;
```

```
}
```