

Midterm 1 Prep

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if Problem 1

Study this code.

```
bool x = true, y = false;
int z = 5
if( !(x && y) ) {
    if(z >= 0) {
        cout << 'A' << endl;
        if( z == -1 ) { cout << 'B' << endl; }
        cin >> z;
    }
    if( z < 0 ) {
        cout << 'C' << endl;
    }
}
```

It is impossible for 'B' to print?

- True False

It is impossible for 'A' and 'C' to print?

- True False

for Tracing Problem 1

Study this code.

```
for(int x = 2; x < 12; x++) {  
    x += 1;  
    cout << x << endl; // cout statement 1  
}
```

How many times will this loop iterate?

- 12 10 9 6 5

What will be printed by the cout statement 1?

for Tracing Problem 2

Trace the behavior of the following for loop. Note: `abs()` is the C library function to compute absolute value.

```
int x = 1, y = 7;
for( ; abs(x-y) > 1; x++) {
    x += 1;
    y -= 1;
    cout << x << " " << y << endl; // cout statement 1
}
cout << x << endl; // cout statement 2
```

What will be printed the first time that cout statement 1 executes.

- 1 7 2 6 x y 3 6 5 4

What will be printed the second time that cout statement 1 executes.

- 2 6 x y 3 5 4 5 5 4

What NUMBER be printed by the cout statement 2.

- 2 3 4 5 6 7 None of the above

SOLUTIONS

if Problem 1

Study this code.

```
bool x = true, y = false;
int z = 5
if( !(x && y) ) {
    if(z >= 0) {
        cout << 'A' << endl;
        if( z == -1 ) { cout << 'B' << endl; }
        cin >> z;
    }
    if( z < 0 ) {
        cout << 'C' << endl;
    }
}
```

It is impossible for 'B' to print?

- True False

It is impossible for 'A' and 'C' to print?

- True False

for Tracing Problem 1

Study this code.

```
for(int x = 2; x < 12; x++) {  
    x += 1;  
    cout << x << endl; // cout statement 1  
}
```

How many times will this loop iterate?

12 10 9 6 5

What will be printed by the cout statement 1?

3
5
7
9
11

for Tracing Problem 2

Trace the behavior of the following for loop. Note: `abs()` is the C library function to compute absolute value.

```
int x = 1, y = 7;
for( ; abs(x-y) > 1; x++) {
    x += 1;
    y -= 1;
    cout << x << " " << y << endl; // cout statement 1
}
cout << x << endl; // cout statement 2
```

What will be printed the first time that cout statement 1 executes.

- 1 7 2 6 x y 3 6 5 4

What will be printed the second time that cout statement 1 executes.

- 2 6 x y 3 5 4 5 5 4

What NUMBER be printed by the cout statement 2.

- 2 3 4 5 6 7 None of the above