Midterm 1 Prep

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if Problem 1

Study this code.

```cpp
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.

```cpp
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.

```c
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.
- 01 7
- 02 6
- 0x y
- 03 6
- 05 4

What will be printed the second time that cout statement 1 executes.
- 02 6
- 0x y
- 03 5
- 04 5
- 05 4

What NUMBER be printed by the cout statement 2.
- 02
- 03
- 04
- 05
- 06
- 07
- None of the above
SOLUTIONS
if Problem 1

Study this code.

```cpp
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.

```cpp
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.

```c
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