You Have Not Received Any E-mails In The Last Hour. What Do You Do?

Step 1: PANIC
Is your e-mail down? How long has it been down? Are there negative effects? If you need to send an e-mail, do you have to use a phone?

Step 2: Send yourself a test e-mail

Step 3: Wait, what if it only works for YOU??

Step 4: Annoy Your Friends
Ask them to send you a test e-mail. Burns, this is more important than what they’re doing.

Step 5: Wait, what if it JUST started working?

Step 6: There is an undetermined period in time in which you may or may not have been able to receive important e-mails.

Step 7: Do Something Stupid
E-mail everyone you know and ask if they tried to send you an e-mail in the last hour.
if/else if/else

if (<expression>) {
    <statement>
}
...
else if (<expression>) {
    <statement>
}
...
else {
    <statement>
}
Relational and Logical Operators

• == Equality
• >= Greater than or equal to
• <= Less than or equal to
• > Greater than
• < Less than
• != Not equal to
• || OR
• && AND
• ! NOT
Example

- if(1+2)
- if(2-4)
- if(2-2)
- if(4==4)
- if((2+1) == 4)
- if(4.1 == 4)
- if(3 <= 4)
- if(4 >= 4)
- if(3.5 > 4)
- if(4 < 4)
- if(3+2*2 > 9)
- if((3+2)*2 > 9)
Examples Continued

• AND: if((1>2) && (2<5))
• OR: if((1>2) || (2<5))
• NOT: if(!1>2 && 2<5)

| p  | q  | p && q | p || q | !p |
|----|----|--------|--------|----|
| T  | T  | T      | T      | F  |
| T  | F  | F      | T      | F  |
| F  | T  | F      | T      | T  |
| F  | F  | F      | F      | T  |
if/else Example

if (x > y) {
    cout << "X is greater than Y" << endl;
}
else {
    cout << "Y is less than X" << endl;
}

//Are these print statements always true?
if/else if/else Example

    if (x > y) {
        cout << "X is greater than Y" << endl;
    }
    else if (x == y) {
        cout << "X is equal to Y" << endl;
    }
    else {
        cout << "Y is less than X" << endl;
    }
Nested Decisions

```cpp
if (confused_on_class_procedure == True) {
    if (procedure_in_syllabus == False) {
        cout << "Email TA or Shannon" << endl;
    } else {
        bool still_confused = read_syllabus();
        if (still_confused == True) {
            cout << "Email TA or Shannon" << endl;
        } else {
            cout << "Good job!" << endl;
        }
    }
}
```
Notes on Scope

• Block Scope: variables declared exist until the end of the block
• Blocks = {}

```c
int main () {
    int a = 0;
    if (a == 0) {
        int b = a; //a still exists in here
    }
    b = 1; //error: b does not exist out here
    return 0;
}
```
Alternative: Switch Statements

switch (<expression>) {
    case <const-expression>:
        <statement>;
        ...
        break;
    case <const-expression>:
        <statement>;
        ...
        break;
    default:
        <statement>;
        ...
        break;
}
Switch Statement Details

- Tests equality: `<expression> == <const-expression>`
  - If it’s true, execute that code
- Need to have break statements otherwise it will fall through and execute everything else
- Default case is optional but a good idea
Demo
Feedback

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