

C++ Programming

Selection 2

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Teaching, Training and Coaching since more than a decade!

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What if I need more conditions?

- Write a program that reads an integer salary then:
- If salary < 1000,
 - print you are poor
- Else If salary >= 1000 and < 20000,
 - print good salary
- Else If salary >= 20000,
 - print you are rich
- Now, how to command computer to do these if else?
- Good software engineer **tests** well his code. What are good **test cases**?
 - 0, 500, **1000**, **10000**, 200000, 1000000000

The if-else Chain

06_3.cpp

```
1 #include<iostream>
2 using namespace std;
3
4 int main() {
5     int salary;
6     cin>>salary;
7
8     if (salary < 1000)
9         cout<<"you are poor\n";
10    else if (salary >= 1000 && salary < 20000)
11        cout<<"good salary\n";
12    else {
13        cout<<"you are rich\n";
14        cout<<"lucky guy?\n";
15    }
16
17    return 0;
18 }
```

Console Problems Tasks Properties 1010 0101 Call Gra

<terminated> ztemp [C/C++ Application] /home/moustafa/works

30000

you are rich

lucky guy?

- Code follow
- If (cond)
 - Go to body ONLY if cond true
- If previous condition is not correct, move to next
- Else if (cond)
 - Again true, get it in
- If previous false move to next
- Else
 - Get in if nothing previous worked

How many digits?

- Read an integer and print if it has 1, 2, 3, 4 or 5+ digits
- For example if input is 556
 - Then print: **3 digits**

```
06_5.cpp
1  #include<iostream>
2  using namespace std;
3
4  int main() {
5      int num;
6      cin>>num;
7
8      if (num < 10)
9          cout<<"1 digit\n";
10     else if (num < 100)
11         cout<<"2 digits\n";
12     else if (num < 1000)
13         cout<<"3 digits\n";
14     else if (num < 10000)
15         cout<<"4 digits\n";
16     else
17         cout<<"5 or more digits\n";
18
19     return 0;
20 }
21
22
```

Console Problems Tasks Properties

```
<terminated> ztemp [C/C++ Application] /home/r
556
3 digits
|
```

Nested if conditions

```
06_4.cpp
1 #include <iostream>
2 using namespace std;
3
4 int main() {
5     int salary;
6
7     cout<<"Enter salary: ";
8     cin>>salary;
9
10    if (salary < 1000)
11    {
12        cout<<"Enter age: ";
13        int age;
14        cin>>age;
15
16        if (age < 22)
17            cout<<"You are still young.";
18    }
19    else
20        cout<<"you are rich\n";
21
22    return 0;
23 }
24
25
```

```
Console
Problems
Tasks
Properties
1010
0101

<terminated> ztemp [C/C++ Application] /home/moustafa
Enter salary: 500
Enter age: 20
You are still young.|
```

- Inside the body **scope**, we can do whatever
- Even another if (nested if)
- Or if { if {if () } }
- So whatever code body
- Can we use variable age in line 21?
 - Local variable
 - Not visible outside its scope

Summary: 3 styles

- If (condition)
 - body
- Body Either:
 - 1 line code OR
 - {

Several lines

}
- Also body can be nested ifs

- If (condition)
 - body
- else if (condition)
 - body
- else if (condition)
 - body
- else if (condition)
 - body
- else if (condition)
 - body

- If (condition)
 - body
- else if (condition)
 - body
- else if (condition)
 - body
- else if (condition)
 - body
- else
 - body

“Acquire knowledge and impart it to the people.”

“Seek knowledge from the Cradle to the Grave.”