

Conditional Statements | Hackerrank

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Prepare > C++ > Introduction > Conditional Statements

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Problem

if and else are two of the most frequently used conditionals in C/C++, and they enable you to execute zero or one conditional statement among many such dependent conditional statements. We use them in the following ways:

1. if: This executes the body of bracketed code starting with *statement1* if *condition* evaluates to true.

```
if (condition) {
    statement1;
    ...
}
```

2. if - else: This executes the body of bracketed code starting with *statement1* if *condition* evaluates to true, or it executes the body of code starting with *statement2* if *condition* evaluates to false. Note that only one of the bracketed code sections will ever be executed.

```
if (condition) {
    statement1;
    ...
}
else {
    statement2;
    ...
}
```

Submissions

Leaderboard

Submissions

```
39 string rtrim(const string &str) {
40     string s(str);
41
42     s.erase(
43         find_if(s.rbegin(), s.rend(), not1(ptr_fun<int, int>(isspace))).base(),
44         s.end()
45     );
46
47     return s;
48 }
49
```

Line: 49 Col: 1

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Sample Test case 0

Sample Test case 1

Input (stdin)

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For Loop | HackerRank

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Problem

Submissions

Leaderboard

Discussions

A for loop is a programming language statement which allows code to be repeatedly executed.

The syntax is

```
for ( <expression_1> ; <expression_2> ; <expression_3> )  
    <statement>
```

- expression_1 is used for initializing variables which are generally used for controlling the terminating flag for the loop.
- expression_2 is used to check for the terminating condition. If this evaluates to false, then the loop is terminated.
- expression_3 is generally used to update the flags/variables.

A sample loop is

```
for(int i = 0; i < 10; i++) {  
    ...  
}
```

In this challenge, you will use a for loop to increment a variable through a range.

Input Format

You will be given two positive integers, a and b ($a \leq b$), separated by a newline.

Output Format

```
15  if (i >= 1 && i <= 9) {  
16      cout << words[i - 1] << endl;  
17  } else {  
18      if (i % 2 == 0) {  
19          cout << "even" << endl;  
20      } else {  
21          cout << "odd" << endl;  
22      }  
23  }  
24  }  
25  }  
26  }  
27  }  
28  return 0;  
29  }
```

Line: 29 Col: 2

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Problem

Submissions

Leaderboard

Discussions

Functions are a bunch of statements glued together. A function is provided with zero or more arguments, and it executes the statements on it. Based on the return type, it either returns nothing (void) or something.

The syntax for a function is

```
return_type function_name(arg_type_1 arg_1, arg_type_2 arg_2, ..  
...  
...  
...  
[if return_type is non void]  
    return something of type 'return_type';  
}
```

For example, a function to return the sum of four parameters can be written as

```
int sum_of_four(int a, int b, int c, int d) {  
    int sum = 0;  
    sum += a;  
    sum += b;  
    sum += c;  
    sum += d;  
    return sum;  
}
```

```
12     max_val = c;  
13 }  
14 if (d > max_val) {  
15     max_val = d;  
16 }  
17 return max_val;  
18 }  
19  
20 int main() {  
21     int a, b, c, d;  
22     scanf("%d %d %d %d", &a, &b, &c, &d);  
23     int ans = max_of_four(a, b, c, d);  
24     printf("%d", ans);  
25  
26     return 0;  
27 }
```

Line: 27 Col: 2

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Problem

A **pointer** in C++ is used to share a memory address among different contexts (primarily functions). They are used whenever a function needs to modify the content of a variable, but it does not have ownership.

In order to access the memory address of a variable, *val*, prepend it with **&** sign. For example, **&val** returns the memory address of *val*.

This memory address is assigned to a pointer and can be shared among functions. For example, **int* p = &val** assigns the memory address of *val* to pointer *p*. To access the content of the memory pointed to, prepend the variable name with a *****. For example, ***p** will return the value stored in *val* and any modification to it will be performed on *val*.

```
void increment(int *v) {
    (*v)++;
}

int main() {
    int a;
    scanf("%d", &a);
    increment(&a);
    printf("%d", a);
    return 0;
}
```

Function Description

```
9      *b = diff;
10     }
11
12     int main() {
13         int a, b;
14         int *pa = &a, *pb = &b;
15
16         scanf("%d %d", &a, &b);
17
18         update(pa, pb);
19
20         printf("%d\n%d", a, b);
21
22         return 0;
23     }
24 }
```

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Cpp exception handling | Hackerrank

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Problem

In this challenge, the task is to debug the existing code to successfully execute all provided test files.

You are required to extend the existing code so that it handles `std::invalid_argument` exception properly. More specifically, you have to extend the implementation of `process_input` function. It takes integer `n` as an argument and has to work as follows:

1. It calls function `largest_proper_divisor(n)`.
2. If this call returns a value without raising an exception, it should print in a single line `result=d` where `d` is the returned value.
3. Otherwise, if the call raises a `std::invalid_argument` exception, it has to print in a single line the string representation of the raised exception, i.e. its message.
4. Finally, no matter if the exception is raised or not, it should print in a single line `returning control flow to caller` after any other previously printed output.

To keep the code quality high, you are advised to have exactly one line printing `returning control flow to caller` in the body of `process_input` function.

Your function will be tested against several cases by the locked template code.

Input Format

The input is read by the provided locked code template. In the only line of the input, there is a single integer `n`, which is going to be the argument passed to function `process_input`.

Constraints

Submissions

Leaderboard

Discussions

```
25     } catch (const invalid_argument& e) {
26         cout << e.what() << endl;
27     }
28
29     cout << "returning control flow to caller" << endl;
30 }
31 > ...
```

Line: 30 Col: 2

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Structs | HackerRank

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Problem

struct is a way to combine multiple fields to represent a composite data structure, which further lays the foundation for Object Oriented Programming. For example, we can store details related to a student in a struct consisting of his age (int), first_name (string), last_name (string) and standard (int).

struct can be represented as

```
struct NewType {
    type1 value1;
    type2 value2;
    .
    .
    .
    typeN valueN;
};
```

You have to create a struct, named Student, representing the student's details, as mentioned above, and store the data of a student.

Input Format

Input will consist of four lines.

The first line will contain an integer, representing age.

The second line will contain a string, consisting of lower-case Latin characters ('a'-'z'), representing the first_name of a student.

Submissions

Leaderboard

Discussions

```
11
12 struct Student{
13     int age;
14     string first_name;
15     string last_name;
16     int standard;
17 };
18 int main() {
19     Student st;
20
21     cin >> st.age >> st.first_name >> st.last_name >> st.standard;
22     cout << st.age << " " << st.first_name << " " << st.last_name << " " << st.
23     standard;
24     return 0;
25 }
```

Line: 25 Col: 2

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Strings | HackerRank

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Problem

Submissions

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Discussions

C++ provides a nice alternative data type to manipulate strings, and the data type is conveniently called string. Some of its widely used features are the following:

- Declaration:

```
string a = "abc";
```
- Size:

```
int len = a.size();
```
- Concatenate two strings:

```
string a = "abc";
string b = "def";
string c = a + b; // c = "abcdef".
```
- Accessing i^{th} element:

```
string s = "abc";
char c0 = s[0]; // c0 = 'a'
char c1 = s[1]; // c1 = 'b'
char c2 = s[2]; // c2 = 'c'

s[0] = 'z'; // s = "zbc"
```

```
9  cin >> a >> b;
10
11
12  cout << a.length() << " " << b.length() << endl;
13
14  cout << a + b << endl;
15
16
17  if (!a.empty() && !b.empty()) {
18      swap(a[0], b[0]);
19  }
20
21  cout << a << " " << b << endl;
22
23  return 0;
```

Line: 24 Col: 2

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