



CS-114 - Fundamental of Programing

Lab Manual # 03

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TASK 1:

Code:

```
#include <iostream>
using namespace std;

int main() {
    char x;
    int y;
    cout<<"enter the name of province ";
    cin>>x;
    cout<<"enter the number of population ";
    cin>>y;
    switch(x){

        case 'p':
            y = 110012444;
            cout<<"province is punjab:"<<x<<endl;

            break;

        case 's':
            y= 47886000;
            cout <<"province is sindh:"<<x<<endl;
            break;
        case 'k':
            y= 30552155;

            cout <<"province is KPK:"<<x<<endl;
            break;
        case 'b':
            y= 12344523;
            cout <<"province is bolochistan:"<<x<<endl;
            break;
        default:
            cout<< "invalid input"<<endl;
```



```
}
```

```
return 0;
```

```
}
```

OUTPUT:

```
main.cpp
16
17     break;
18
19     case 's':
20     y= 47886000;
21     cout <<"province is sindh:"<<x<<endl;
22     break;
23     case 'k':
24     y= 30552155;
25
26     cout <<"province is KPK:"<<x<<endl;
27     break;
28 case 'b':
29     y= 12344523;
30     cout <<"province is bolochistan:"<<x<<endl;
31     break;
32     default:
33     cout<< "invalid input"<<endl;
34
35 }
36
37     return 0;
38 }
39

input
enter the name of province k
enter the number of population 30552155
province is KPK:k
...Program finished with exit code 0
Press ENTER to exit console
```

TASK 2:

Code:

```
#include <iostream>
```

```
using namespace std;
```

```
int main() {
```

```
char a;
```

```
cout <<"enter a character";
```

```
cin>>a;
```



```
switch(a){
    case 'a':
    case 'e':
    case 'i':
    case 'o':
    case 'u':
    case 'A':
    case 'E':
    case 'I':
    case 'O':
    case 'U':
        cout <<a <<"is a vowel"<<endl;
        break;

    default:
        cout<<a<<"is not consonant"<<endl;
}
return 0;
}
```

OUTPUT:

```
main.cpp
4 int main() {
5     char a;
6     cout <<"enter a character";
7     cin>>a;
8     switch(a){
9         case 'a':
10        case 'e':
11        case 'i':
12        case 'o':
13        case 'u':
14        case 'A':
15        case 'E':
16        case 'I':
17        case 'O':
18        case 'U':
19        cout <<a <<"is a vowel"<<endl;
20        break;
21
22        default:
23        cout<<a<<"is not consonant"<<endl;
24    }
25    return 0;
26 }
```

Input

```
enter a characterk
is not consonant

...Program finished with code 0
Press ENTER to exit console
```



TASK 3:


Code:

```
#include<iostream>
using namespace std;
int main(){
    int x;
    cout<<"enter a number ";
    cin >>x;
    switch(x>0){
        case true:
            cout<<"number is positive";
            break;
        case false:

        switch(x<0){
            case true:
                cout <<"number is negative ";
                break;
            case false:
                cout <<"number is zero";
                break;

        }
    }
    return 0;
}
```

**OUTPUT:**

main.cpp	Output
<pre>1 #include<iostream> 2 using namespace std; 3 int main(){ 4 int x; 5 cout<<"enter a number "; 6 cin >>x; 7 switch(x>0){ 8 case true: 9 cout<<"number is positive"; 10 break; 11 case false: 12 switch(x<0){ 13 case true: 14 cout <<"number is negative "; 15 break; 16 case false: 17 cout <<"number is zero"; 18 break; 19 } 20 } 21 }</pre>	<pre>/tmp/fCgUhrYiSy.o enter a number 18 number is positive</pre> <div> C++ Course, Enhanced I Learn cpp the right way – solv</div>

TASK 4:**Code:**

```
#include <iostream>
```

```
using namespace std;
```

```
int main() {
```

```
    int y;
```

```
    cout << "Enter the age of the person: ";
```

```
    cin >> y;
```

```
    if (y >= 18) {
```

```
        cout << "The person is an adult." << endl;
```

```
    } else {
```



```

if (y >= 13 && y <= 17) {
    cout << "The person is a teenager." << endl;
} else {
    cout << "The person is a child." << endl;
}
}

return 0;
}
    
```

OUTPUT:

The screenshot shows a C++ program in a code editor. The code defines a function `main()` that prompts the user to enter an age. It then uses a series of `if` and `else` statements to categorize the person as an adult, teenager, or child based on their age. The output shows that for an input of 17, the program correctly identifies the person as a teenager.

```

1  #include <iostream>
2
3  using namespace std;
4
5  int main() {
6      int y;
7
8      cout << "Enter the age of the person: ";
9      cin >> y;
10
11
12
13     if (y >= 18) {
14         cout << "The person is an adult." << endl;
15     } else {
16         if (y >= 13 && y <= 17) {
17             cout << "The person is a teenager." << endl;
18         } else {
19             cout << "The person is a child." << endl;
20         }
21     }
22
23     return 0;
24 }
25
    
```

Input: 17

Output: Enter the age of the person: 17
The person is a teenager.

Program finished with code 0

TASK 5:

Code:

```

#include <iostream>
using namespace std;
int main()
{
    int x, y, z;
    
```



```
cout <<"enter three numbers";
cin >>x >>y>>z;
if(x>y)
    if (x>z)
        cout <<"greater number is "<<x<<endl;
    else
        cout<<"greater number is "<<z<<endl;

else {
    if (y>z)
        cout << "greater number is "<<y<<endl;
    else
        cout << "greater number is "<<z<<endl;
    return 0;
}
}
```

OUTPUT:

```
main.cpp
1 #include <iostream>
2 using namespace std;
3 int main()
4 {
5     int x, y, z;
6     cout <<"enter three numbers";
7     cin >>x >>y>>z;
8     if(x>y)
9         if (x>z)
10            cout <<"greater number is "<<x<<endl;
11        else
12            cout<<"greater number is "<<z<<endl;
13
14    else {
15        if (y>z)
16            cout << "greater number is "<<y<<endl;
17        else
18            cout << "greater number is "<<z<<endl;
19        return 0;
20    }
21 }
22
23
24
```

input

```
enter three numbers 267
654
888
greater number is 888

...Program finished with exit code 0
Press ENTER to exit console.
```




TASK 6:

Code:

```
#include <iostream>
using namespace std;
int main (){
    char x;
    cout << "enter a character";
    cin>> x;
    if (x>='a' && x<='z')
        if ((x == 'a' || x=='e' || x=='i' || x=='o' || x== 'u' ))
            cout << "character is vowel"<<endl;
        else
            cout << "character is consonant"<< endl;
    else
        cout << "invalid input"<<endl;
    return 0;
}
```

OUTPUT:

```
1 #include <iostream>
2 using namespace std;
3 int main (){
4     char x;
5     cout << "enter a character";
6     cin>> x;
7     if (x>='a' && x<='z')
8         if ((x == 'a' || x=='e' || x=='i' || x=='o' || x== 'u' ))
9             cout << "character is vowel"<<endl;
10        else
11            cout << "character is consonant"<< endl;
12    else
13        cout << "invalid input"<<endl;
14    return 0;
15 }
16 }
```

enter a character f
character is consonant

...Program finished with exit code 0
Press ENTER to exit console.

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