

Lab Assignment #3

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Course Title: fundamentals of programming

Hometask#1

```
#include <iostream>

using namespace std;

int main(){

    int a;

    cout<< "Phttps://www.onlinegdb.com/online_c++_compiler#tab-stdinlease Enter the Province
    from the Given Options 1-4: "<<endl;

    cout<<"1 - Punjab"<<endl;
    cout<<"2 - Balochistan"<<endl;
    cout<<"3 - KPK"<<endl;
    cout<<"4 - Sindh"<<endl;

    cin>> a;

    //making switch cases for populations of provinces
    switch(a){
    case 1:
        cout<<"The Population for Punjab is 110 Milion";
        break;
    case 2:
        cout<<"The Population for Balochistan is 21.7 Million";
        break;
    case 3:
        cout<<"The Population for KPK is 40.8 Million";
        break;
    case 4:
        cout<<"The Population for Sindh is 47.9 Million";
        break;

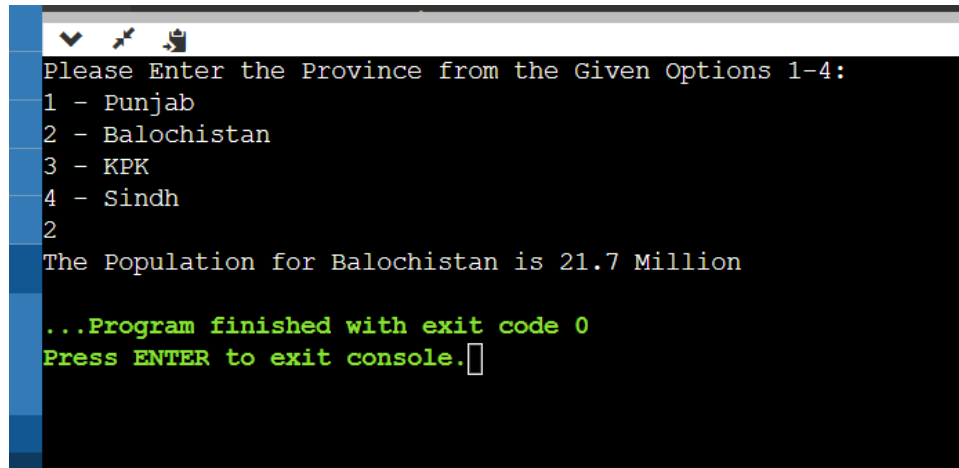
    //if the entered number is in valid
```

default:

```
cout<<"Entered input is Invalid";  
}
```

return 0;

```
}
```

A screenshot of a terminal window with a black background and white text. The window title bar shows standard OS icons. The text in the terminal reads: "Please Enter the Province from the Given Options 1-4:", followed by a list: "1 - Punjab", "2 - Balochistan", "3 - KPK", "4 - Sindh". The user has entered "2". The program then outputs: "The Population for Balochistan is 21.7 Million". At the bottom, it says "...Program finished with exit code 0" and "Press ENTER to exit console." with a cursor.

```
Please Enter the Province from the Given Options 1-4:  
1 - Punjab  
2 - Balochistan  
3 - KPK  
4 - Sindh  
2  
The Population for Balochistan is 21.7 Million  
  
...Program finished with exit code 0  
Press ENTER to exit console.
```

Hometask#2:

```
#include <iostream>
```

```
using namespace std;
```

```
int main() {
```

```
    char alphabet;
```

```
    cout << "Enter an alphabet: ";
```

```
    cin >> alphabet;
```

```
//creating switch case for vowels
```

```
    switch (alphabet) {
```

```
        case 'a':
```

```
        case 'e':
```

```
        case 'i':
```

```

    case 'o':
    case 'u':
    case 'A':
    case 'E':
    case 'I':
    case 'O':
    case 'U':

        cout << alphabet << " is a vowel." << endl;

        break;

//if it is not a vowel so by default it is consonant
default:

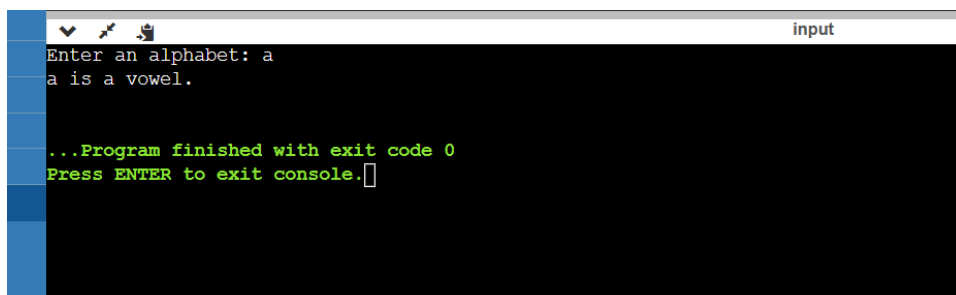
    cout << alphabet << " is a consonant." << endl;

}

return 0;

}

```



```

input
Enter an alphabet: a
a is a vowel.

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

```

Hometask#3:

```

#include <iostream>

using namespace std;

int main(){

int a;

```

```
cout<<"Please Enter a Number to Check: ";
cin>>a;
//taking input of an integer and using if-then-else to check if it is positive/negative
if (a>0){
a=1;
}
else if (a<0){
a=-1;
}
switch(a){
//switch for a for cases
case 1:
cout<<"Number is Positive!";
break;
case -1:
cout<<"Number is Negative!";
break;
default:
cout<<"Number is zero!";
break;
}
return 0;
}
```

A screenshot of a terminal window with a black background and green text. The text shows a program that prompts the user to enter a number to check. The user has entered 0, and the program has responded with "Number is zero!". The program then displays "...Program finished with exit code 0" and "Press ENTER to exit console." with a cursor. The terminal window has a title bar with standard icons and the word "input" in the top right corner.

```
Please Enter a Number to Check: 0
Number is zero!

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

Hometask#4:

```
#include<iostream>

using namespace std;

int main(){

int age;

cout<<"Please Enter your Age: ";

cin>>age;

if(age<13){

cout<<"You are a Child!";

}

else{

if(age>=13 && age<=19){

cout<<"You are a Teenager!";

}

else{

cout<<"You are an Adult!";

}

}

return 0;

}
```

```
Please Enter your Age: 19
You are a Teenager!

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

Hometask#5:

```
#include <iostream>
```

```
using namespace std;
```

```
int main(){
int x,y,z;
cout<<"Please Input Number x: ";
cin>>x;
cout<<"Please Input Number y: ";
cin>>y;
cout<<"Please Input Number z: ";
cin>>z;
if(x>y){
if(x>z){
cout<<"x is Greatest!";
}
else{
cout<<"z is Greatest!";
}
}
else if(y>x){
if(y>z){
cout<<"y is Greatest!";
```

```

}
else{
cout<<"z is Greatest!";
}
}
return 0;
}

```

```

Please Input Number x: 7
Please Input Number y: 8
Please Input Number z: 9
z is Greatest!

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

```

Hometask#6:

```

#include <iostream>

using namespace std;

int main(){

char x;

cout<<"Please input a Character: ";

cin>>x;

//taking input as char and using first if to check if input is alphabet
if(isalpha(x)){

if(x=='a' || x=='e' || x=='i' || x=='o' || x=='u'){

//for case of vowel used nested if
cout<<"Entered Character is a Vowel";

}

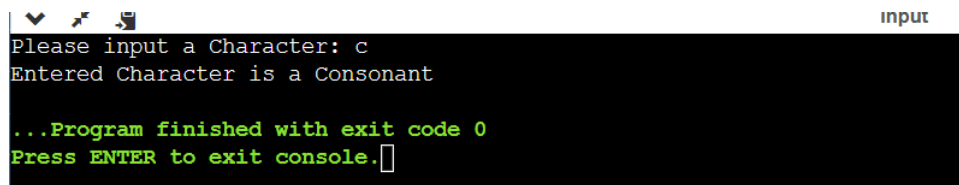
else{

//else consonant in all case

```



```
cout<<"Entered Character is a Consonant";  
}  
}  
else{  
//if entered input not alphabet invalid error occurs  
cout<<"Invalid Input!";  
}  
return 0;  
}
```

A screenshot of a console window with a black background and white text. The window has a title bar with the word "input" on the right and three icons (minimize, maximize, close) on the left. The text inside the console shows the program's execution: a prompt "Please input a Character: c", the output "Entered Character is a Consonant", and a green-colored message "...Program finished with exit code 0" followed by "Press ENTER to exit console." with a cursor.

```
input  
Please input a Character: c  
Entered Character is a Consonant  
...Program finished with exit code 0  
Press ENTER to exit console.
```