

**National University of Sciences and Technology (NUST)**  
**Department of Mechanical Engineering (SMME)**



**Fundamentals of Programming (FOP)**

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By

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## Home Task-1

```
#include <iostream>

using namespace std;

int main() {

    int p;

    cout<<"Enter Province name: 1 for Punjab, 2 for Sindh, 3 for KPK and 4 for Balochistan"<<endl;

    cin>>p;

    switch(p){

        case 1:

            cout<<"Population of Punjab is 127,474,000";

            break;

        case 2:

            cout<<"Population of Sindh is 54,858,515";

            break;

        case 3:

            cout<<"Population of KPK is 39,372,462";

            break;

        case 4:

            cout<<"Population of Balochistan is 20,094,659";

            break;

        default:

            cout<<"INVALID";

    }

    Return 0;

}
```

## Home Task-2

```
#include <iostream>

using namespace std;

int main() {
    char x;
    cout<<"Enter an Alphabet:"<<endl;
    cin>>x;
    switch(x){
        case 'a':
            cout<<"This is a vowel";
            break;
        case 'e':
            cout<<"This is a vowel";
            break;
        case 'i':
            cout<<"This is a vowel";
            break;
        case 'o':
            cout<<"This is a vowel";
            break;
        case 'u':
            cout<<"This is a vowel";
            break;
        default:
            cout<<"This is a consonant";

    }
    Return 0;
}
```

### Home Task-3

```
#include <iostream>

using namespace std;

int main() {
    int num,x;

    cout<<"Enter a Number"<<endl;
    cin>>num;
    if(num<0){
        x=1;
    }
    else if(num>0){
        x=2;
    }
    else{
        x=3;
    }
    switch(x){
    case 2:
        cout<<"Positive";
        break;
    case 1:
        cout<<"Negative";
        break;
    case 3:
        cout<<"This is equal to zero";
        break;
    }
    Return 0;
}
```

## Home Task-4

```
#include <iostream>

using namespace std;

int main() {
    int age;
    cout<<"Enter Age"<<endl;
    cin>>age;
    if(age<=12&&age>0){
        cout<<"This is a Child";
    }
    else
    {
        if(age>12&&age<=19){
            cout<<"This is a Teenager";
        }
        else
        {
            if(age>19&&age<=100){
                cout<<"This is an adult";
            }
            else {
                cout<<"You should not exist";
            }
        }
    }
}

Return 0;
}
```

## Home Task-5

```
#include <iostream>

using namespace std;

int main() {
    int x,y,z;
    cout<<"Enter x"<<endl;
    cin>>x;
    cout<<"Enter y"<<endl;
    cin>>y;
    cout<<"Enter z"<<endl;
    cin>>z;
    if(x>y&&x>z){
        cout<<x<<" is the greatest";
    }
    else
    {
        if(y>x&&y>z){
            cout<<y<<" is the greatest";
        }
        else{
            if(z>x&&z>y){
                cout<<z<<" is the greatest";
            }
            else{
                cout<<"INVALID";
            }
        }
    }
    Return 0; }
```

## Home Task-6

```
#include <iostream>

using namespace std;

int main() {
    char x;

    cout<<"Enter an Alphabet:"<<endl;
    cin>>x;
    if(x=='a'){
        cout<<"This is a vowel";
    }
    else
    {
        if(x=='e'){
            cout<<"This is a vowel";
        }
        else{
            if(x=='i'){
                cout<<"This is a vowel";
            }
            else{
                if(x=='o'){
                    cout<<"This is a vowel";
                }
                else{
                    if(x=='u'){
                        cout<<"This is a vowel";
                    }
                }
            }
            else{
                cout<<"This is a consonant";
            }
        }
    }
}
```

```
        }  
    }  
}  
  
return 0;  
}
```