Assignment Title:

Fundamental of Programming Home tasks

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Home Tasks:

1. Write a C++ program to print the total number of populations in Punjab, Sindh, KPK, and Balochistan using a switch case.

```cpp
#include <iostream>
using namespace std;
int main(){
char province;
    cout<< "Program to print population of Provinces ";
    cout<<endl<< "'P' for Punjab"<<endl<<"'S' for Sindh"<<endl<<"'K' for KPK"<<endl<<"'B' for Balochistan.";
    cout<<endl<< "Enter name of the province : ";
    cin>>province;
    switch (province){
    case 'P':
        cout << "Population of Punjab is : 127 million";
        break;
    case 'S':
        cout << "Population of Sindh is : 40.8 million";
        break;
    case 'K':
        cout << "Population of KPK is : 40.8 million";
        break;
    case 'B':
        cout << "Population of Balochistan is : 21.7 million ";
        break;
        default:
        cout<< "Please enter the correct input";
    }
    return 0;
}
```

```
Program to print population of Provinces
'P' for Punjab
'S' for Sindh
'K' for KPK
'B' for Balochistan.
Enter name of the province : K
Population of KPK is : 40.8 million
--------------------------------
```

2. Write a C++ program to check whether an alphabet is a vowel or consonant using a switch case.

```cpp
#include <iostream>
using namespace std;
int main(){
    char alphabet;
    cout<<"Enter an alphabet: "; cin>>alphabet;
    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.";
        break;
        default:
            cout<<alphabet<<" is a consonant.";
    }
    return 0;
}
```

```
Enter an alphabet: a
a is a vowel.
--------------------------------
Process exited after 2.876 seconds with return value 0
Press any key to continue . . .
```

```
Enter an alphabet: w
w is a consonant.
--------------------------------
Process exited after 2.959 seconds with return value 0
Press any key to continue . . .
```

3. Write a C++ program to check whether a number is positive, negative, or zero using a switch case.

```cpp
#include<iostream>
using namespace std;
int main(){
  float number;
// take input
  cout << "Enter a Number : ";
  cin>>number; // check
  if (number>0){
    cout<<number<<" is a Positive number" << endl;}
  else{
   if(number<0){
    cout<<number<<" is a Negative number"<<endl;
  }else{
    cout<<"Number is zero"<<endl;}
}
    return 0;}
```

```
Enter a Number : 0
Number is zero

--------------------------------
Process exited after 2.699 seconds with return value 0
Press any key to continue . . .
```

4. Write a C++ to find out whether a person is an adult, teenager, or child using nested if-else.

```cpp
#include <iostream>
using namespace std;
int main(){
    int age;
    cout<<"Enter your age.";cin>>age;
if(age>=18){
    cout<<" You're an adult.";
}else{
    if(age>=13){
        cout<<"You're a teenager.";
    }else{
        if(age<=12){
            cout<<"You're a child.";
        }else{
            cout<<"Enter correct age.";
        }
    }
}
    return 0;
}
```

```
Enter your age.18
 You're an adult.
--------------------------------
Process exited after 2.722 seconds with return value 0
Press any key to continue . . .
```

5. Write a C++ program that takes three number from the user and find the greatest number out of the three numbers using nested if-else statements.

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

int main() {
    double n1, n2, n3; // Input three numbers
    cout<<"Enter the first number: ";
    cin>>n1;

    cout<<"Enter the second number: ";
    cin>>n2;

    cout<<"Enter the third number: ";
    cin>>n3;
    // Compare the numbers to find the greatest
    if (n1>=n2) {
        if (n1>=n3) {
            cout<<"The greatest number is: "<<n1<<endl;
        } else {
            cout<< "The greatest number is: "<<n3<<endl;
        }
    } else {
        if (n2>=n3) {
            cout<<"The greatest number is: "<<n2<<endl;
        } else {
            cout<<"The greatest number is: "<<n3<<endl;
        }
    }

    return 0;
}
```

```
Enter the first number: 2
Enter the second number: 3
Enter the third number: 5
The greatest number is: 5

--------------------------------
Process exited after 6.96 seconds with return value 0
Press any key to continue . . .
```

6. Write a C++ program to check whether the alphabet entered by the user is Vowel or Consonant using nested if-else.

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

int main() {
    char alphabet;
    cout<<"Enter an alphabet: ";
    cin>>alphabet; // Check if it is an alphabet
    if ((alphabet>='a' && alphabet<='z') || (alphabet>='A' &&  alphabet<='Z')) {
        if (alphabet=='a' || alphabet=='e' || alphabet=='i' || alphabet=='o' || alphabet=='u' ||
            alphabet=='A' || alphabet=='E' || alphabet=='I' || alphabet=='O' || alphabet=='U') {
            cout<<alphabet<<" is a vowel."<<endl;
        } else {
            cout<<alphabet<<" is a consonant."<<endl;
        }
    } else {
        cout<<"Invalid input. Please enter an alphabet."<<endl;
    }

    return 0;
}
```

```
Enter an alphabet: e
e is a vowel.

--------------------------------
Process exited after 3.863 seconds with return value 0
Press any key to continue . . .
```