National University of Science and technology (NUST)

CS-114 - Fundamental of Programing

Home Task # 03

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TASK 1:

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

```cpp
/*----------------------------------------------------------
Population L-3 T-1 is a code to show populations in selected provinces
------Name: Asim Imran---Reg No:476434----Date:17-10-2023-----------*/
#include <iostream>
using namespace std;
int main(){
    int a;
    //Declaring variable'a'
    cout<<"1)Punjab"<<endl;
    cout<<"2)Sindh"<<endl;
    cout<<"3)KPK"<<endl;
    cout<<"4)Balochistan"<<endl;
    cout<<"Select the specific Province :";
    cin>>a;
    //Inputting varible from user
    switch (a)//using Switch command
    {
        case 1: //using case 1 for Punjab
            cout<<"Total population of Punjab = 127,474,000"<<endl;
            break;
        case 2: //using case 2 for Sindh
        cout<<"Total population of Sindh = 54,858,515"<<endl;
        break;
        case 3: //using case 3 for KPK
            cout<<"Total population of KPK = 39,372,462"<<endl;
            break;
            case 4: //using case 4 for balochistan
                cout<<"Total population of Balochistan = 20,094,659"<<endl;
                break;
    }
    return 0;
}
```

```
C:\Users\ADMIN\OneDrive\Documents\Population L-3 H-1.exe

1)Punjab
2)Sindh
3)KPK
4)Balochistan
Select the specific Province :1
Total population of Punjab = 127,474,000

-------------------------------
Process exited after 11.28 seconds with return value 0
Press any key to continue . . .
```

TASK 2:

Write a C++ program to check if given alphabet is an vowel or an alphabet using switch case

```cpp
/*--------------------------------------------------------------
--Vowel or Consonant is a code for checking if given letter is a vowel or consonant
--Name:Asim Imran------Regno: 476434------Date: 17-10-2023--Section:A-------------*/
#include <iostream>
using namespace std;
int main(){
    char al;
    //Determining a chracter 'al'
    cout<<"Enter a alphabet:";
    cin>>al;
    //Inputting the 'al' from user
    switch(al) //using switch for 'al'
    {
        case 'a':
        case 'e':
        case 'i':        //using case for separating vowels
        case 'o':
        case 'u':
            cout<<"Given alphabet is a vowel"<<endl;
            //printing output
            break;
            //using case command for separating consonants
        case 'b':
        case 'c':
        case 'd':
        case 'f':
        case 'g':
        case 'h':
        case 'j':
        case 'k':
        case 'l':
        case 'm':
        case 'n':
        case 'p':
        case 'q':
        case 'r':
        case 's':
        case 't':
        case 'v':
        case 'w':
        case 'x':
        case 'y':
        case 'z':
            cout<<"Given alphabet is a consonant"<<endl;
            //printing output
            break;

    }
    return 0;
}
```

```
C:\Users\ADMIN\OneDrive\Documents\Vowel or Consonant L-3 H-2.exe

Enter a alphabet:a
Given alphabet is a vowel

--------------------------------
Process exited after 3.362 seconds with return value 0
Press any key to continue . . .
```

TASK 3:

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

```cpp
/*------------------------------------------------------------------
   Number is a code for determinging if an innput is positive negative or zero
--Name: Asim Imran ---Reg no: 476434----Date: 17-10-2023-----------------*/
#include <iostream>
using namespace std;
int main(){
    int a;
    //Declaring variables
    cout<<"Enter a number :";
    cin>>a;
    //taking number sa input from user
    switch (a)
    {
        case -1:
            //for -1 print
            cout<<"Given number is negative";
            break;
        case 0:
            //for zero print
            cout<<"Given number is zero"<<endl;
            break;
        case 1:
        cout<<"Given number is positive"<<endl;
        break;
    }
    return 0;
}
```

```
Select C:\Users\ADMIN\OneDrive\Documents\Nummber L-3 H--3.exe

Enter a number :-1
Given number is negative
-------------------------------
Process exited after 4.103 seconds with return value 0
Press any key to continue . . .
```

TASK 4:

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

```cpp
/*----------------------------------------------------------
'Person L-3 H-4' is a code for determing if a person is adult,
teenager aor child using nested if-else
--Name: Asim Imran----Reg no:476434------date:17-10-2023*/
#include <iostream>
using namespace std;
int main(){
    int a;
    //Declaring variable for age
    cout<<"Enter the age of the Person :";
    cin>>a;
        // getting age as input from user
    if(a>=18){
        cout<<"The person is'Adult'"<<endl;
    }       //using 'if' for checking if age is 18 or greater thabn 18
    else{
        if(a >= 13){ //using nested if for age of 13 and greater than 13
            cout<<"Person is a 'Teenager'"<<endl;
        }else{ // using 'else' statement in else for printing text for child
            cout<<"Person is a 'Child' "<<endl;
        }
    }
    return 0;
}
```

```
C:\Users\ADMIN\OneDrive\Documents\Person L-3 H-4.exe

Enter the age of the Person :57
The person is'Adult'

--------------------------------
Process exited after 5.152 seconds with return value 0
Press any key to continue . . .
```

TASK 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
/*---------------------------------------------------------------
"Greatest Number L-3 H-5" is a code for determining greatest of three
inputted numbers from user-------------------------------------
------Name: Asim Imran------Reg no: 476434----------Date:17-10-2023*/
#include <iostream>
using namespace std;
int main(){
                        //declaring variables for three numbers
    int a;
    int b;
    int c;
                    //Taking three numbers as input from user
    cout<<"Enter First number :";
    cin>>a;
    cout<<"Enter Second number :";
    cin>>b;
    cout<<"Enter Third number :";
    cin>>c;
    //Using nested if and else to determine the largest nummber
    if(a>b){
        if(a>c){
                cout<<"First number is Greatest i.e "<<a<<endl;
        }else{
                cout<<"Third number is greatest i.e  "<<c<<endl;
        }
    }
    else{
        if(b>a && b>c){
            cout<<"Second number is  greatest i.e  "<<b<<endl;
        }else{
            cout<<"Third number is greatest i.e  "<<c<<endl;
        }
    }
    //printing the number
    return 0;
}
```

```
C:\Users\ADMIN\OneDrive\Documents\Greatest Number L-3 H-5.exe

Enter First number :15
Enter Second number :19
Enter Third number :35
Third number is greatest i.e  35

-------------------------------
Process exited after 9.575 seconds with return value 0
Press any key to continue . . .
```

TASK 6:

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

```cpp
/*--------------------------------------------------------------
"Nested if" is code for checking if given alphabet is vowel or consonant
using nested if------------------------------------------------
--Name : Asim Imran-----Reg no: 476434----------Date : 17-10-2023------*/
#include <iostream>
using namespace std;
int main(){
    //Declaring character 'al'
    char al;
    cout<<"Enter an alphabet :";
    //Taking an alphabet as an input from user
    cin>>al;
    //using if and nested if for lower case vowel alphabets
    if(al>='a' && al<='z'){
        if(al=='a' || al=='e' || al=='i' || al=='o' || al=='u'){
            cout<<"Given alphabet is an vowel"<<endl;
        }else{
            //using nested else for printing lower case consonants
            cout<<"Given alphabet is a consonant"<<endl;
        }
    }//using nested if foor printing upper case vowels
    else{

        if(al=='A' || al=='E' || al=='I' || al=='O' || al=='U'){
            cout<<"Given alphabet is a Vowel"<<endl;
        }else{
            //using nested else for upper case consonants
            cout<<"Given alphabet is a Consonant"<<endl;
        }

    }
    return 0;
}
```

```
C:\Users\ADMIN\OneDrive\Documents\Nested if L-3 H-6.exe

Enter an alphabet :W
Given alphabet is a Consonant

-------------------------------
Process exited after 3.344 seconds with return value 0
Press any key to continue . . .
```