School Of Mechanical & Manufacturing Engineering, NUST

Department of Mechanical Engineering

CS-114 - Fundamental of Programing

Assignment # 03

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

Code

```
#include <iostream>
using namespace std;
int main ()
{
    int x;
    cout<<"enter 1 for sindh , 2 for kpk , 3 for punjab , 4 for balochistan"<<endl;
    cin>>x;
    switch (x)  {

     case 1 :
     cout<<"the population of sindh is 47,854,510 "<<endl;
     break;
     case 2 :
     cout<<"the population of kpk is 30,508,920 "<<endl;
     break;
     case 3 :
     cout<<"the population of punjab is 109,989,655 "<<endl;
     break;
     case 4 :
     cout<<"the population of balochistan is 12,335,129 "<<endl;
     break;
     default :
        cout<<"the number entered is invalid, try again"<<endl;
        break;


    }
    return 0;

}
```

Output

```
D:\c++\home tasks\home task 3.exe
enter 1 for sindh , 2 for kpk , 3 for punjab , 4 for balochistan
3
the population of punjab is 109,989,655

--------------------------------
Process exited after 2.161 seconds with return value 0
Press any key to continue . . .
```

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

Code

```
//
{
    char x;
    cout<<"enter a character"<<endl;
    cin>>x;
    switch (x) {

     case  'a' :  case  'e' :  case 'i' : case  'o':  case  'u' : case 'A':  case 'E':  case 'I' : case  'O' : case  'U' :
     cout<<"the given character is a vowel"<<endl;
    break;
    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' : 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<<"the given character is a consonant"<<endl;
    break;
    default :
    cout<<"the character is not an alphabet"<<endl;
    break;
}



    return 0;

    }
```

Output

```
enter a character
g
the given character is a consonant

--------------------------------
Process exited after 1.632 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.

Code

```
{
    char x;
    cout<<"enter a number"<<endl;
    cin>>x;
        switch(x) {
        case 0 :
            cout<<"the number is equal to 0"<<endl;
            break;
         default:
    if (x>0) {
        cout<<"the number is positive"<<endl;
    }
        else {
            cout<<"the number is equal to 0"<<endl;
        } }
        return 0;
    }
```

Output

```
enter a number
5
the number is positive

--------------------------------
Process exited after 1.837 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.

Code

```
{
  float x;
  cout<<"enter the age of person"<<endl;
  cin>>x;
  if (x<20) {
  if (x>=13)    {
    cout<<"the person is a teenager"<<endl;
     }
     else {
     cout<<"the person is a child"<<endl;
      }
  }
    else
    {
        cout<<"the person is an adult"<<endl;
    }
    return 0;
}
```

Output

```
enter the age of person
54
the person is an adult

--------------------------------
Process exited after 2.426 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.

Code

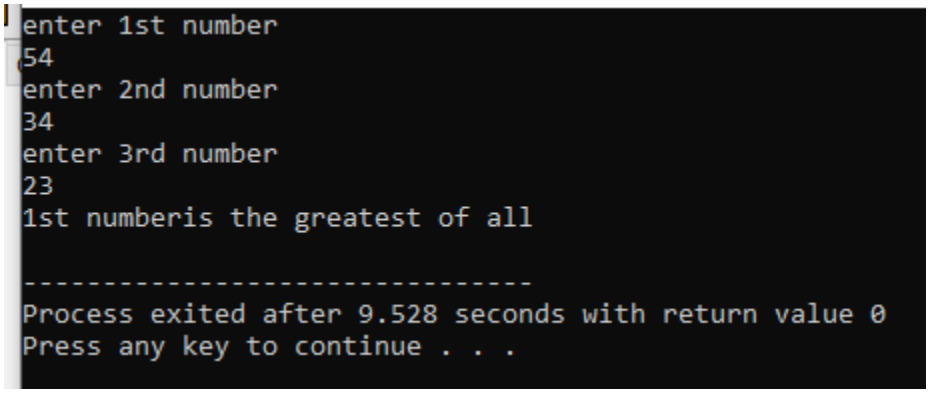
```
{
    float x,y,z;
    cout<<"enter 1st number"<<endl;
    cin>>x;
        cout<<"enter 2nd number"<<endl;
    cin>>y;
        cout<<"enter 3rd number"<<endl;
    cin>>z;
    if (x!=y&&x!=z)  {
        if (x>y&&x>z) {
                cout<<"1st numberis the greatest of all"<<endl;

        }
            if (y>x&&y>z) {
                cout<<"2nd numberis the greatest of all"<<endl;
            }

                if (z>y&&z>x) {
                cout<<"3rd numberis the greatest of all"<<endl;
    }


    }
    else {
                cout<<"all the 3 numbers are equal"<<endl;
    }
}
```

Output



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

Code

```
{
    char x;
    cout<<"enter a character "<<endl;
    cin>>x;
    if ((x>='a'&&x<='z') || (x>='A'&&x<='Z')) {
        if (x=='a'|| x=='e'||x=='i'||x=='o'||x=='u'||x=='A'||x=='E'||x=='I'||x=='O'||x=='U') {
            cout<<"given character is a vowel "<<endl;
        }
        else {
            cout<<"given character is a constant "<<endl;
        }

    }
    else {
        cout<<"given character is not an alphabet "<<endl;
    }
}
```

Output

```
enter a character
e
given character is a vowel

--------------------------------
Process exited after 4.37 seconds with return value 0
Press any key to continue . . .
```