NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

CS-114- FUNDAMENTAL OF PROGRAMMING

LAB MANUAL 3

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TASK 1:

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

CODE:

```
1    #include <iostream>
2    using namespace std;
3    int main ()
4    {
5        char ch;
6        cout <<"Enter a character(a-z) :" << endl;
7        cin >> ch;
8    if (ch >= 'a' && ch <= 'z')
9        switch(ch) {
10       case 'a' : case 'e' : case 'i' : case 'o' : case 'u' :
11       cout <<"It is vowel." <<ch <<endl;
12       break;
13       default :
14       cout <<"It is consonent." <<ch <<endl;
15       break;
16       }
17   return 0; }
```

■' C:\Users\Al-WAjid Laptops\OneDrive\Documents\Untitled2,8.exe

```
Enter a character(a-z) :
y
It is consonent.y

---------------------------------
Process exited after 4.056 seconds with return value 0
Press any key to continue . . . ▄
```
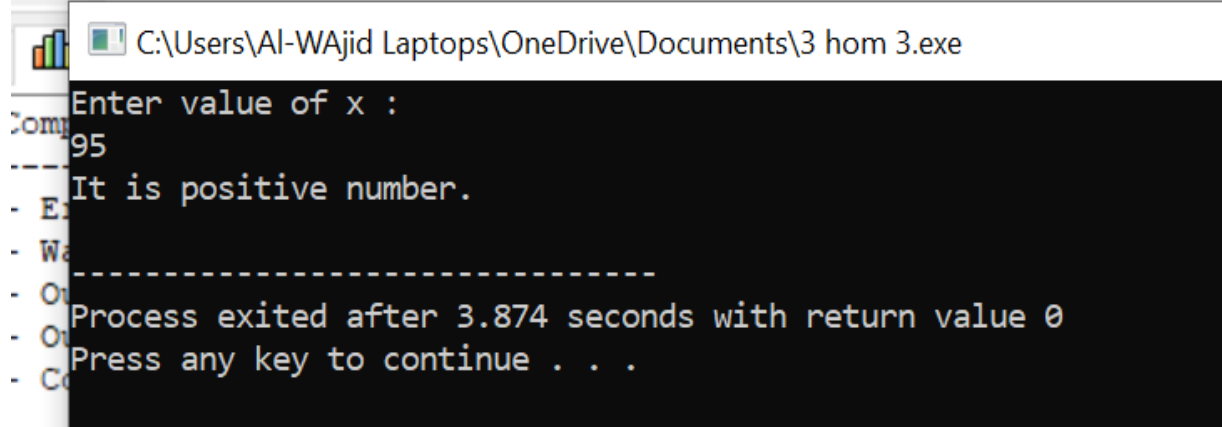
TASK 2:

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

CODE:

```cpp
1    #include <iostream>
2    using namespace std;
3    int main (){
4        int x;
5        cout <<"Enter value of x :" <<endl;
6        cin >> x;
7        int z;
8        if (x>0) {
9            z = 1;
10       } else if (x <0){
11           z = -1;
12       }   else{
13               z = 0;}
14       switch (z) {
15       case 1:
16       cout <<"It is positive number." << endl;
17       break;
18       case -1:
19       cout <<"It is negative number." << endl;
20       break;
21       case 0:
22       cout << "It is zero." << endl;
23       break;
24       }
25       return 0;
26   }
```

C:\Users\Al-WAjid Laptops\OneDrive\Documents\3 hom 3.exe

```
Enter value of x :
95
It is positive number.

-----------------------------------
Process exited after 3.874 seconds with return value 0
Press any key to continue . . .
```

TASK 3:

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

CODE:

```
1    #include <iostream>
2    using namespace std;
3    int main ()
4    {
5        int age;
6        cout <<"Enter age :"<<endl;
7    cin >>age;
8        if(age > 19){
9        cout <<"user is adult." <<endl;
10       }
11       else{
12       if(age >= 13 && age <= 19){
13       cout <<"user is teenager." <<endl;
14       } else {
15       if (age >= 0)
16       {
17       cout <<"user is child." <<endl;}
18       else {
19       cout <<"Invalid input." <<endl;
20       }
21       }
22   }
23   return 0;
24   }
```

C:\Users\Al-WAjid Laptops\OneDrive\Documents\home task4 lab3.exe

```
Enter age :
16
user is teenager.

---------------------------------
Process exited after 3.184 seconds with return value 0
Press any key to continue . . .
```

TASK 4:

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

CODE:

```cpp
1    #include <iostream>
2    using namespace std;
3    int main ()
4    {
5        int num1,num2,num3;
6        cout <<"Enter value of num1 :" <<endl;
7        cin >> num1;
8        cout <<"Enter value of num2 :" <<endl;
9        cin >> num2;
10       cout <<"Enter value of num3 :" <<endl;
11       cin >> num3;
12       if (num1 > num2 && num1 > num3) {
13           cout << num1 <<" : is greater than " <<num2 <<"and" <<num3;
14       }  else {
15       if (num1 < num2 && num2 > num3) {
16           cout << num2 <<" : is greater than " <<num1 <<"and" <<num3;
17       } else {
18           cout << num3 <<" : is greater than " <<num1 <<"and" <<num2;
19       }
20       }
21       return 0;
22   }
```

C:\Users\Al-WAjid Laptops\OneDrive\Documents\home 5,3.exe

```
Enter value of num1 :
456
Enter value of num2 :
576
Enter value of num3 :
389
576 : is greater than 456and389
-------------------------------
Process exited after 10.77 seconds with return value 0
Press any key to continue . . .
```

TASK 5:

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

CODE:

```cpp
#include <iostream>
using namespace std;
int main ()
{
    char ch;
    cout <<"Enter a character (a-z) :" <<endl;
    cin >>ch;
    if (ch == 'a' || ch =='i'){
        cout <<"It is vowel." <<endl;
    } else {
        if (ch == 'e' || ch =='o') {
        cout <<"It is vowel." <<endl;
        } else {
            if(ch == 'u'){
                cout <<"It is vowel." <<endl;
            } else{
        cout <<"It is consonent." <<endl;
        }
    }
    }
    return 0;
}
```

C:\Users\Al-WAjid Laptops\OneDrive\Documents\lab 3 home task 6.exe

```
Enter a character (a-z) :
u
It is vowel.

----------------------------------
Process exited after 3.141 seconds with return value 0
Press any key to continue . . .
```

TASK 6:

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

CODE:

```cpp
#include <iostream>
using namespace std;
int main (){
    int Panjab,Sindh,KPK,Balochistan;
    Panjab =127474000;
    Sindh =  54858515;
    KPK =39372462;
    Balochistan =20037659;
    cout <<"Enter number to get information about population:" <<endl; // P for punjab, S for sindh, K for kpk and B for balochistan
    int Z;
    cout <<"Put 1 for Panjab" <<endl;
    cout <<"Put 2 for Sindh"<<endl;
    cout <<"Put 3 for KPK"<<endl;
    cout <<"Put 4 for Balochistan"<<endl;
    cin >> Z;
    switch (Z){
    case 1:
    cout <<"population of Punjab is :"<<Panjab <<endl; //output
    break;
    case 2:
    cout <<"population of Sindh is :" <<Sindh<<endl; //output
    break;
    case 3:
    cout <<"population of KPK is :" <<KPK <<endl; //output
    break;
    case 4:
    cout <<"population of Balochistan is :"<<Balochistan <<endl; //output
    break;
    default:
    cout <<"wrong input " <<endl;
    break ;
    }
    return 0;
}
```

C:\Users\Al-WAjid Laptops\OneDrive\Documents\lab 3 home 1.exe

```
Enter number to get information about population:
Put 1 for Panjab
Put 2 for Sindh
Put 3 for KPK
Put 4 for Balochistan
2
population of Sindh is :54858515


--------------------------------
Process exited after 2.455 seconds with return value 0
```