School Of Mechanical & Manufacturing Engineering (NUST)
Department of Mechanical Engineering

Lab Report #03:

Prepared by

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Home Task:-

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

Input:-

```
#include <iostream>
using namespace std;
int main () {
   char pro;
   cout << "Enter the first letter of the Province in lower case:";
   cin >> pro;
   switch (pro) {
      case 'p':
      cout << "The Population of Punjab is 14 crore:" <<endl;
      break;
      case 'k':
      cout << "The Population of KPK is 4 crore:" <<endl;
      break;
      case 's':
      cout << "The Population of Sindh is 4.8 crore:" <<endl;
      break;
      case 'g':
      cout << "The Population of Gilgit Baltistan is 0.2 crore:" <<endl;
      break;
      case 'b':
      cout << "The Population of balochidtan is 2.1 crore:";
      break;
      case 'P':
      case 'K':
      case 'S':
      case 'G':
      case 'B':
      cout <<"Please Write in lower case";
      break;
      default:
      cout << "--Error:: Invalid Province :: Error--";
   }
   return 0;
}
```

Output:

```
Enter the first letter of the Province in lower case:p
The Population of Punjab is 14 crore:


...Program finished with exit code 0
Press ENTER to exit console.
```

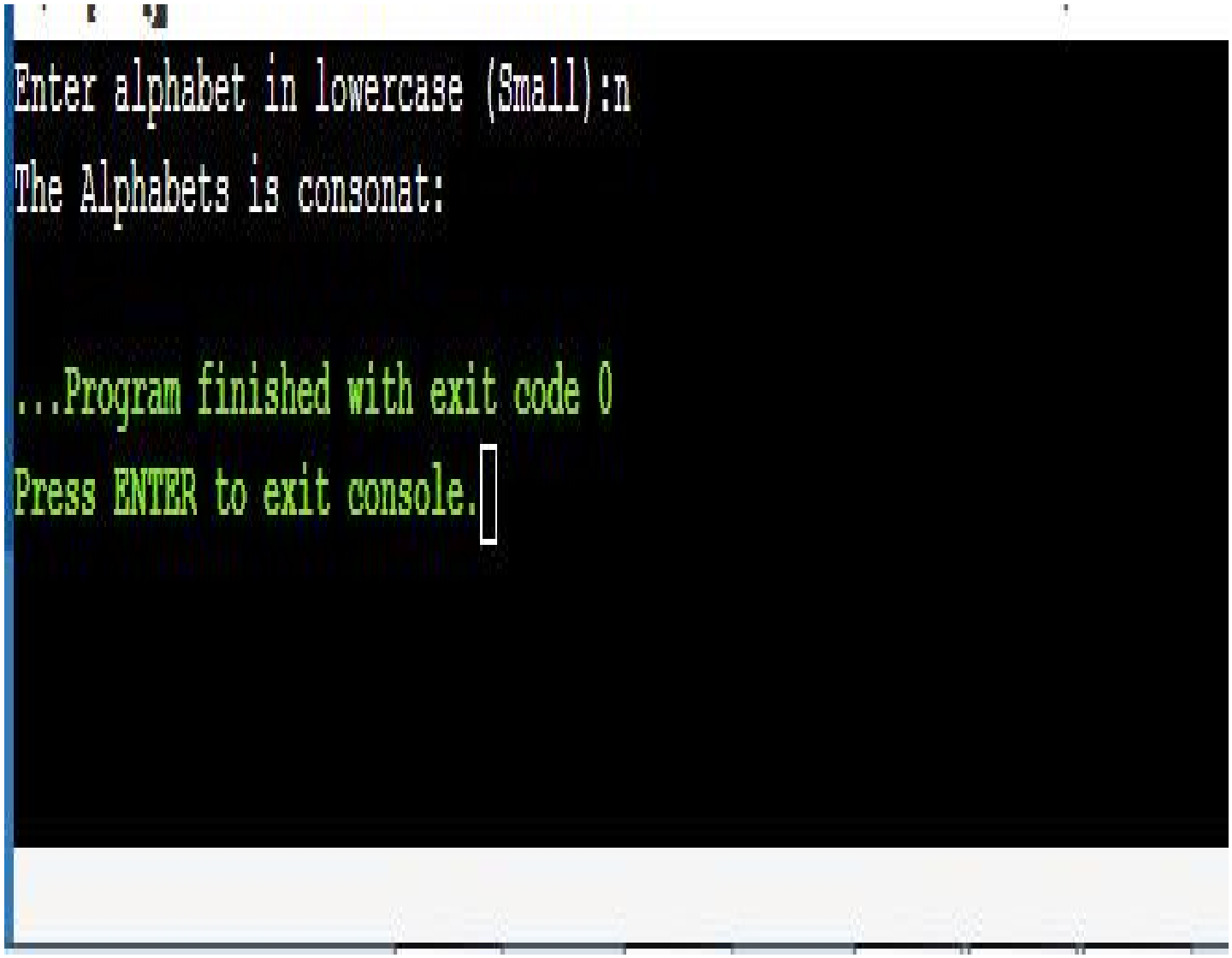
2. Write a C++ program to check whether an alphabet is a vowel or consonant using a switch case.

Input:

```
#include <iostream>
using namespace std;
int main () {
   char alph;
   cout <<"Enter alphabet in lowercase (Small):";
   cin >> alph;
   switch (alph) {
   case 'a':
   case 'e':
   case 'i':
   case 'o':
   case 'u':
   cout <<"This alphabet is vowel";
   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':
   cout <<"The Alphabets is consonat:";
```

```
    break;
    default:
    cout <<"---Error---Not Alphabet type or Capital alphaber is type:";
    }
    return 0;
}
```

Output:



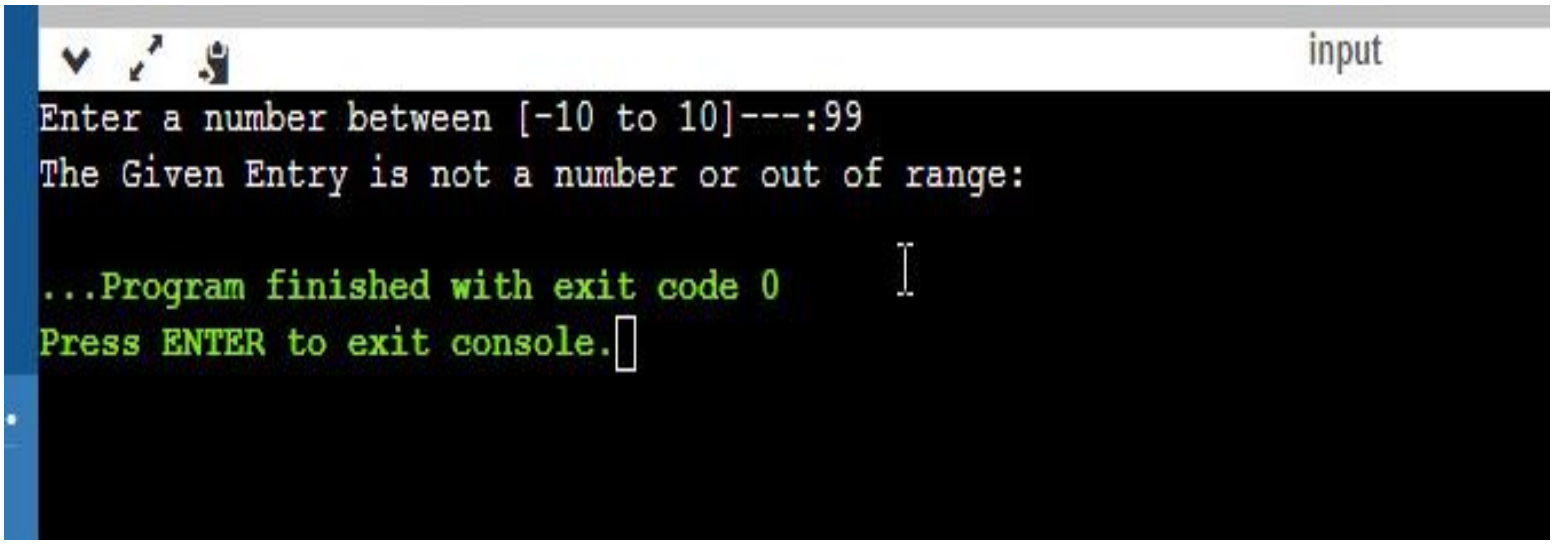
3. Write a C++ program to check whether a number is positive, negative, or zero using a switch case.

Input:

```
#include <iostream>
using namespace std;
int main () {
   int a;
   cout << "Enter a number between [-10 to 10]---:";
   cin >>a;
   switch (a) {
      case 1:
      case 2:
      case 3:
      case 4:
      case 5:
      case 6:
      case 7:
      case 8:
      case 9:
      case 10:
      cout << "Given Number is Positive";
      break;
      case -1:
      case -2:
      case -3:
      case -4:
      case -5:
      case -6:
      case -7:
      case -8:
      case -9:
      case -10:
      cout << "Given Number is Negative";
      break;
      case 0:
      cout << "Given Number is neither Positive nor Negative";
      break;
      default:
      cout << "The Given Entry is not a number or out of range:";
```

```
    }
    return 0;
}
```

Output:



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

Input:

```
#include <iostream>
using namespace std;
int main () {
    int age;
    cout <<"Enter your age:";
```

```
    cin >> age;
    if (age>=20) {
        cout <<"You are an adult:";

    }
    else if (age<=13){
        cout <<"You are a teenager:";
    }
    else
    cout << "You are child:";
    return 0;
}
```

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

Input:

```
#include <iostream>
using namespace std;
int main () {
   int a, b, c;
   cout << "Enter Integers" <<endl;
   cin >>a  >>b  >> c ;
   if (a>b && a>c) {
      cout <<"The Greatest integer is :" <<a;
   }
   else if (b>a&&b>c) {
      cout << "The Greatest integer is:" <<b;
   }
   else
   cout <<"The Greatest integer is:" <<c;
   return 0;
}
```

Output:

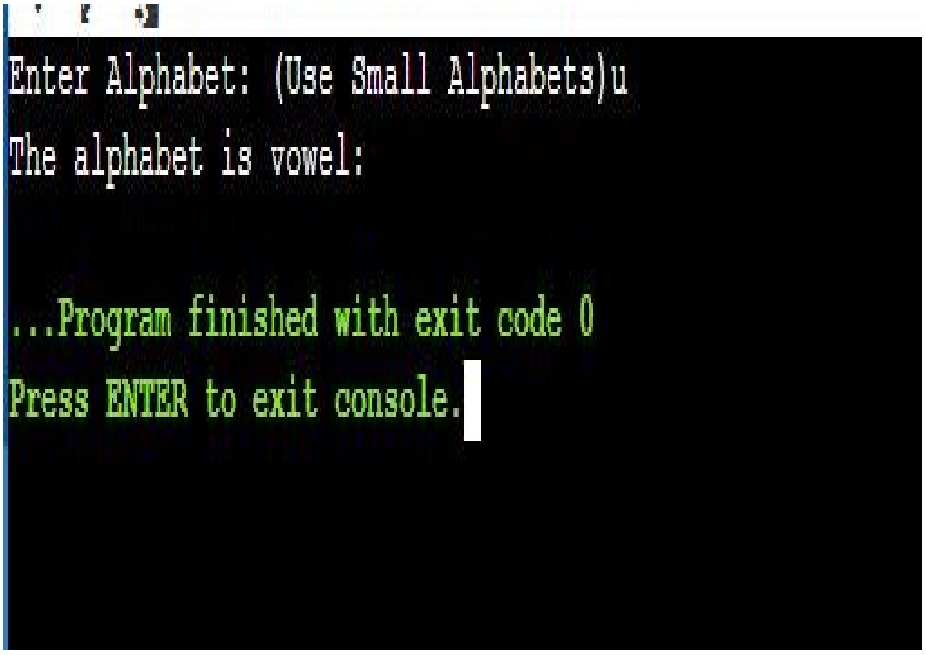
6. Write a C++ program to check whether the alphabet entered by the user is Vowel or Consonantusing nested if-else.

Include:

```
#include <iostream>

using namespace std;

int main () {

  char zxc;


  cout << "Enter Alphabet: (Use Small Alphabets";

  cin >> zxc;

  if (zxc=='a'||zxc=='e'||zxc=='i'||zxc=='o'||zxc=='u')

  {

     cout<<"The alphabet is vowel:";

  }

  else if
(zxc=='b'||zxc=='c'||zxc=='d'||zxc=='f'||zxc=='g'||zxc=='h'||zxc=='j'||zxc=='k'||zxc=='l'||zxc=='m'||zx
c=='n'||zxc=='p'||zxc=='q'||zxc=='r'||zxc=='s'||zxc=='t'||zxc=='v'||zxc=='w'||zxc=='x'||zxc=='y'||zxc=
='z')

  {

     cout <<"The alphabet is consonant";

  }

  else

  cout <<"The given entry is not an alphabet";

   return 0;
```

}

Output:


Enter Alphabet: (Use Small Alphabets)u
The alphabet is vowel:
...Program finished with exit code 0
Press ENTER to exit console.