Fundamentals of programming

Lab Manual 3

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ME-15 Section A

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

```cpp
int main(){

    char province;
```

//asking the user to indicate the province, whose population is required

```cpp
    cout<<"please enter the province. press 'p' for punjab, 's' for sindh, 'b' for balochistan, 'k' for kpk,'a' for kashmir"<<endl;

    cin>>province;
```

//using switch to check which province is asked and outputting the desired results

```cpp
    switch (province){

        case 'p': cout<<"population of punjab is 110 million "<<endl;

        break;

        case 's': cout<<"population of sindh is 56.3 million "<<endl;

        break;

        case 'b': cout<<"population of balochistan is 21.7 million"<<endl;

        break;
```

```cpp
        case 'd': cout<<"population of kpk is 40.85
million"<<endl;
        break;
        case 'a': cout<<"population of kashmir is 4
million"<<endl;
        break;
        default: cout<<"invalid province data"<<endl;
    }
    return 0;
}
```
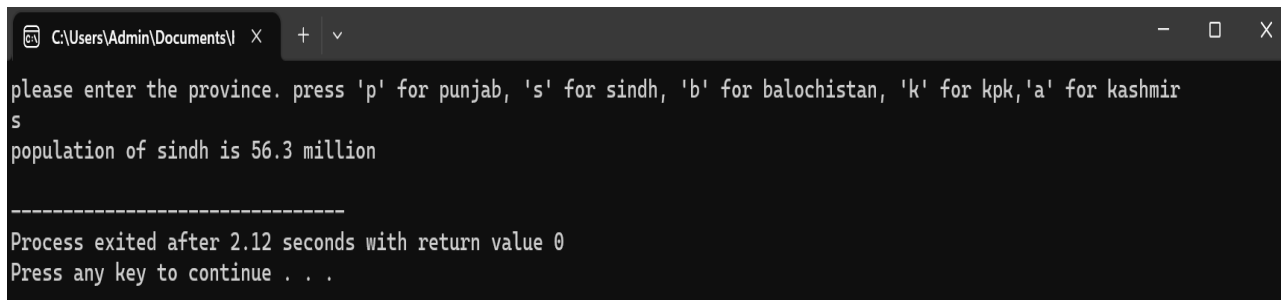


```
C:\Users\Admin\Documents\I   X   +  v                                            —  □  X

please enter the province. press 'p' for punjab, 's' for sindh, 'b' for balochistan, 'k' for kpk,'a' for kashmir
s
population of sindh is 56.3 million

--------------------------------
Process exited after 2.12 seconds with return value 0
Press any key to continue . . .
```

Q2. Write a C++ program to check whether an alphabet is a vowel or consonant using a switch case

```cpp
int main(){
    char alphab;
//asking the user to enter alphabet
```

```cpp
    cout<<"please enter the alphabet you want to
check"<<endl;

    cin>>alphab;
//using switch statement to check if it is a vowel or consonant
and outputting desired results
    switch (alphab){
            case 'a': cout<<"it is vowel"<<endl;

            break;

            case 'e': cout<<"it is vowel"<<endl;

            break;

            case 'i': cout<<"it is vowel"<<endl;

            break;

            case 'o': cout<<"it is vowel"<<endl;

            break;

            case 'u': cout<<"it is vowel"<<endl;

            break;

            default:cout<<"it is consonant"<<endl;

    }
    return 0;


}
```

```
please enter the alphabet you want to check
u
it is vowel

_____
Process exited after 1.406 seconds with return value 0
Press any key to continue . . .
```

Q3. Write a C++ program to check whether a number is positive, negative, or zero using a switch Case.
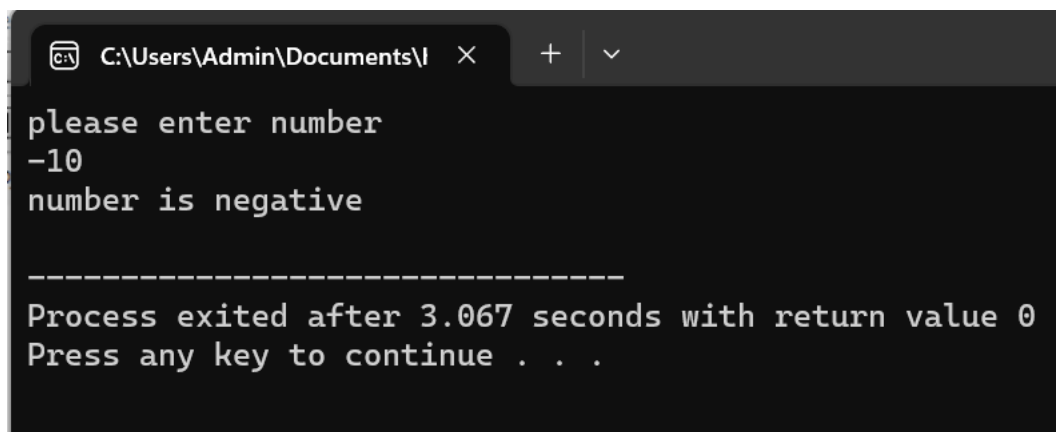
int main(){

    int num;

//asking the user to enter the umber

    cout<<"please enter number"<<endl;

    cin>>num;

//using switch conditional statement to check the sign of number

    switch(num){

        case 0: cout<<"number is zero"<<endl;

        break;

        default: if (num>0){cout<<"number is positive"<<endl;}

```cpp
        else{cout<<"number is negative"<<endl;
        }
    }
    return 0;
}
```

```
C:\Users\Admin\Documents\I   X    +   v

please enter number
-10
number is negative

--------------------------------
Process exited after 3.067 seconds with return value 0
Press any key to continue . . .
```

Q4. Write a C++ to find out whether a person is an adult, teenager, or child using nested if-else

```cpp
int main(){
    int age;
```
//ask the user to enter age
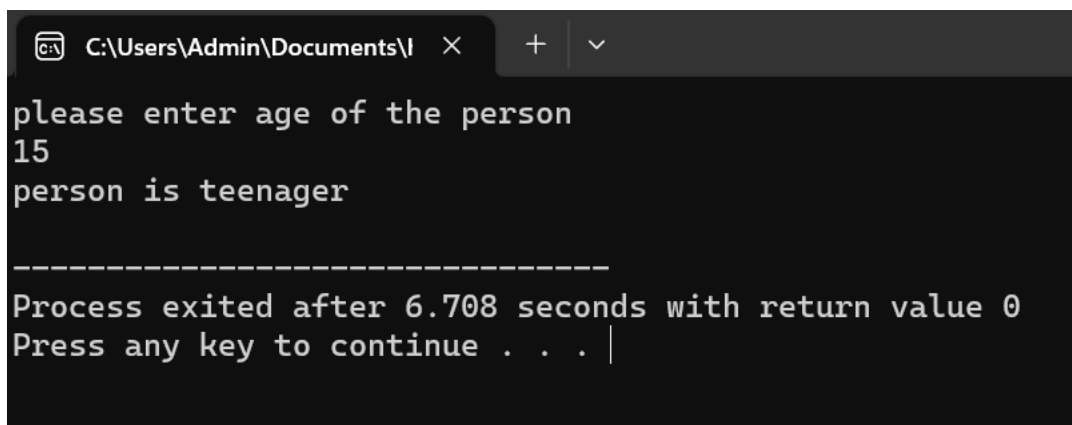```cpp
    cout<<"please enter age of the person"<<endl;
    cin>>age;
```
//using nested if to check if he is adult, teenager or child
```cpp
    if (age>12)
```

```cpp
{if (age>19){cout<<"person is adult"<<endl;  }
else{cout<<"person is teenager"<<endl;
    }
}
else{cout<<"person is child"<<endl;}
return 0;
}
```



```
please enter age of the person
15
person is teenager

--------------------------------
Process exited after 6.708 seconds with return value 0
Press any key to continue . . .
```

Q5. 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.

int main(){

    int num1,num2,num3;

//ask the user to enter numbers

    cout<<"please enter three numbers"<<endl;

```cpp
    cin>>num1;
    cin>>num2;
    cin>>num3;
//using nested if to check all numbers against each other to get
largest
    if (num1>num2){if (num1>num3){cout<<"num1 is the
largest"<<endl;
    }
    else if(num3>num2){cout<<"num3 is largest"<<endl;
    }
    }
    else{ if (num2>num3){cout<<"num2 is the largest"<<endl;
    }
    }
    return 0;
}
```

```
C:\Users\Admin\Documents\I   X    +    v

please enter three numbers
27
21
50
num3 is largest

----------------------------------
Process exited after 23.06 seconds with return value 0
Press any key to continue . . .
```

Q6. Write a C++ program to check whether the alphabet entered by the user is Vowel or Consonant using nested if-else

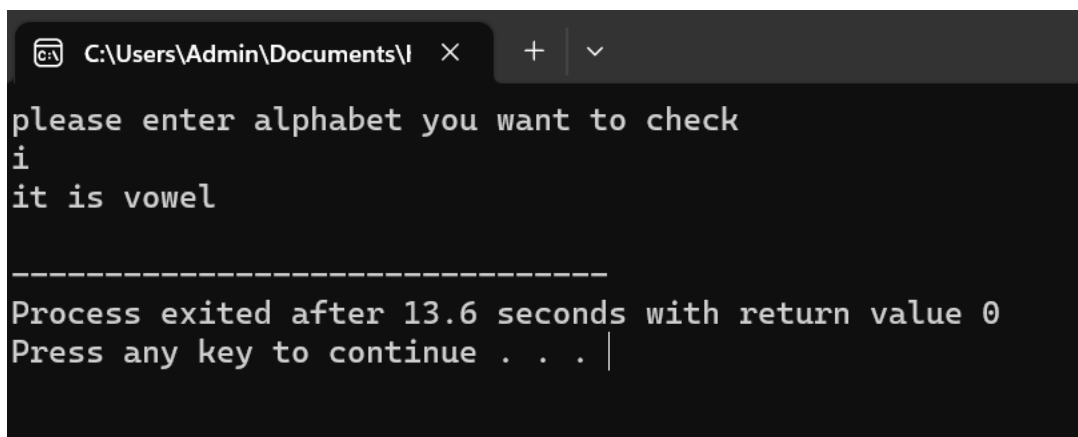int main(){

    char lett;

    //ask the user to enter the alphabet

    cout<<"please enter alphabet you want to check"<<endl;

    cin>>lett;

    //using nested if to check alphabet against all the vowels and outputting the desired results

    if (lett=='a'){

        cout<<"it is vowel"<<endl;

    }

```cpp
    else{ if (lett=='e'){cout<<"it is vowel"<<endl;
    }
    else if (lett=='i'){cout<<"it is vowel"<<endl;
    }
    else if (lett=='o'){cout<<"it is vowel"<<endl;
    }
    else if (lett=='u'){cout<<"it is vowel"<<endl;
    }
    else {cout<<"it is the consonant"<<endl;
    }
    }

    return 0;
}
```