



CS-114 - Fundamental of Programing

Assignment # 3

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DATE:

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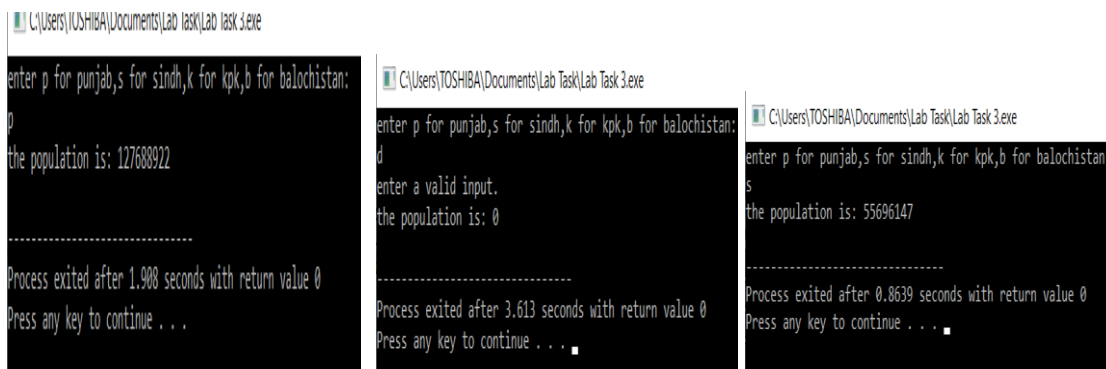
1. Write a C++ program to print the total number of populations in Punjab, Sindh, KPK, and Balochistan using a switch case.

Answer :

```
#include<iostream>
using namespace std ;

int main(){
    char pop; //program which takes province name from user and output the polpulation
    int population;
    cout<<"enter p for punjab,s for sindh,k for kpk,b for balochistan:"<<endl;
    cin>>pop;
    switch(pop){ //using switch statement so tthat there can be any number of cases
        case 'p': //this information is of 2023
            population = 127688922;
            break;
        case 's':
            population=55696147;
            break;
        case 'k':
            population=40856097;
        case 'b':
            population=14894402;
        default:
            cout<<"enter a valid input."<<endl;}
        cout<<"the population is: "<<population<<endl;
        return 0;    }
```

Result:



The image shows three separate screenshots of a Windows command prompt window running a C++ program. Each window has a title bar that reads 'C:\Users\TOSHIBA\Documents\Lab Task\Lab Task 3.exe'. The first screenshot shows the user entering 'p' for Punjab, resulting in a population of 127688922. The second screenshot shows the user entering 'd', which is not a valid case, resulting in the message 'enter a valid input.' and a population of 0. The third screenshot shows the user entering 's' for Sindh, resulting in a population of 55696147. Each screenshot also shows the program exiting after a few seconds with a return value of 0 and a prompt to press any key to continue.

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

Answer:

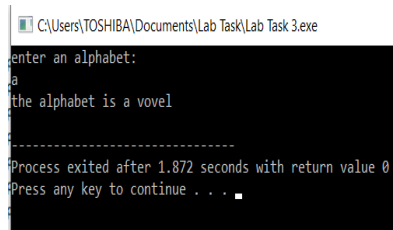
```
#include<iostream>
using namespace std;
int main(){
    char alphabet;
    cout<<"enter an alphabet:"<<endl;
    cin>>alphabet;
```

```

switch(alphabet){
    case'a':case'e':case'i':case'o':case'u':case'A':case'O':case'E':case'I':case'U':
        cout<<"the alphabet is a vowel"<<endl;
        break;
    default:
        cout<<"the alphabet is a consonant"<<endl;
        break; }
return 0; }

```

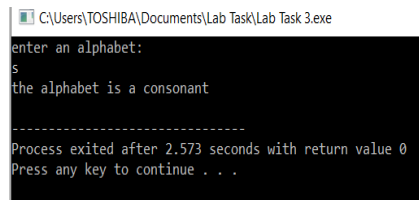
Result:



```

C:\Users\TOSHIBA\Documents\Lab Task\Lab Task 3.exe
enter an alphabet:
a
the alphabet is a vowel
-----
Process exited after 1.872 seconds with return value 0
Press any key to continue . . .

```



```

C:\Users\TOSHIBA\Documents\Lab Task\Lab Task 3.exe
enter an alphabet:
s
the alphabet is a consonant
-----
Process exited after 2.573 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.

Answer:

```

#include <iostream>
using namespace std;
int main(){
    int num ;

    cout<<"enter a number"<<endl;
    cin>>num;
    switch(num){
        case 0:
            cout<<"the number is zero "<<endl;
            break;
        default :

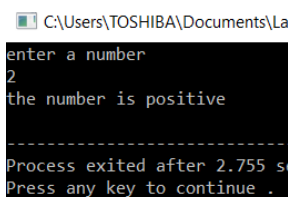
        if(num>0){
            cout<<"the number is positive"<<endl;

        }else if (num<0){

            cout<<"the number is negative"<<endl;
        }
        return 0;
    }
}

```

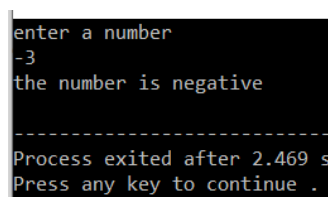
Result:



```

C:\Users\TOSHIBA\Documents\La
enter a number
2
the number is positive
-----
Process exited after 2.755 s
Press any key to continue .

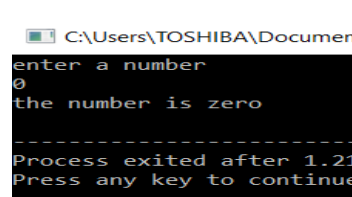
```



```

enter a number
-3
the number is negative
-----
Process exited after 2.469 s
Press any key to continue .

```



```

C:\Users\TOSHIBA\Document
enter a number
0
the number is zero
-----
Process exited after 1.23
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.

Answer:

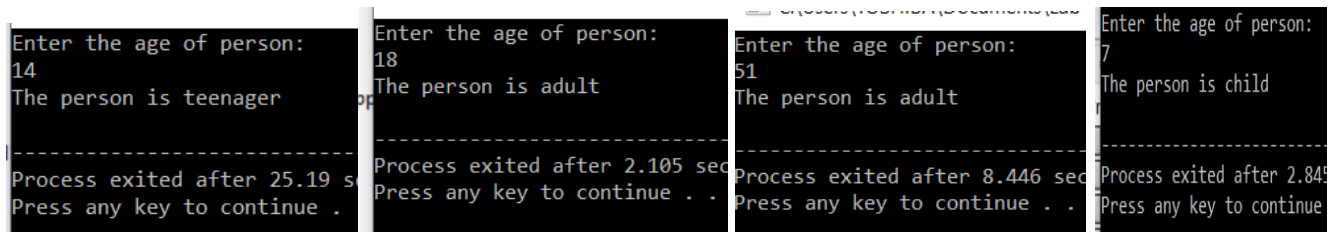
```
#include<iostream>
using namespace std;
int main(){
    int age;
    cout<<"Enter the age of person:"<<endl;
    cin>>age;
    if(age>=1&&age<=12){//using AND operation in if so that both conditions fulfill
        cout<<"The person is child"<<endl;}
    else{

        if (age>12&&age<18){
            cout<<"The person is teenager"<<endl;
        }
        else{

            cout<<"The person is adult"<<endl;
        }
    }

    return 0; }
```

Result:



The image displays four separate screenshots of a C++ program's output, each showing a different age input and the resulting classification. Each screenshot includes the prompt 'Enter the age of person:', the user input, the classification message, and the program's exit status.

Input Age	Output Classification
14	The person is teenager
18	The person is adult
51	The person is adult
7	The person is child

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.

Answer:

```
#include<iostream>
using namespace std;
int main(){//program for checking which number is greater
    int x,y,z;
    cout<<"enter three numbers:"<<endl;
    cin>>x;
    cin>>y;
    cin>>z;
    if(x>y&&x>z){ //using AND operation in if so that both conditions fulfill
        cout<<"First number is greater"<<endl;}
    else{
        if(y>x&&y>z){
            cout<<"Second number is greater"<<endl;
        }
        else{
            cout<<"Third number is greater"<<endl;
        }
    }
}
```

```

    } }
return 0; }

```

Result:

The first screenshot shows the program running with inputs 2, 3, and 5. The output is "Third number is greater".

The second screenshot shows the program running with inputs 4, 5, and 2. The output is "Second number is greater".

The third screenshot shows the program running with inputs 5, -3, and -2. The output is "First number is greater".

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

Answer :

```

#include<iostream>
using namespace std;
int main(){// program for checking whether a alphabet is a vowel or consonant
    char x;
    cout<<"Enter an alphabet"<<endl;
    cin>>x;
    if(x!='z' || x!='Z'){// using OR in if so that at least one condition fulfill
        if(x=='a' || x=='A' || x=='E' || x=='e' || x=='I' || x=='i' || x=='O' || x=='o' || x=='U' || x=='u'){
            cout<<"the alphabet is vowel"<<endl;}
        else{
            cout<<"the alphabets is consonant"<<endl;
        }
    }
    return 0; }

```

Result:

The first screenshot shows the program running with input 'a'. The output is "the alphabet is vowel".

The second screenshot shows the program running with input 'w'. The output is "the alphabets is consonant".