Assignment 5

Title – Study of Switch statement in C++.

Objective-   Write a C++ program create a calculator for an arithmetic operator (+, -,*, /).

Problem Statement-

/*Write a C++ program create a calculator for an arithmetic operator (+, -,*, /). The program should take two operands from user and performs the operation on those two operands depending upon the operator entered by user. Use a switch statement to select the operation. Finally, display the result.

Eg.

Enter first number, operator, second number: 10 / 3

Answer = 3.333333

Do another (y/n)? y

Enter first number, operator, and second number: 12 + 100

Answer = 112

Do another (y/n)? n

Software & Hardware requirements- any Text editor and Terminal in Linux/ Turbo C++ Compiler installed on PC.

Theory-

Scope Resolution Operator in C++

The scope resolution operator is used to reference the global variable or member function that is out of scope. Therefore, we use the scope resolution operator to access the hidden variable or function of a program. The operator is represented as the double colon (::) symbol.

Uses of the scope resolution Operator

1. It is used to access the hidden variables or member functions of a program.
2. It defines the member function outside of the class using the scope resolution.
3. It is used to access the static variable and static function of a class.
4. The scope resolution operator is used to override function in the Inheritance.

Code

```cpp
#include<iostream>
using namespace std;
class Calculator
{
private:
float num1,num2,result;
char op;
public:
void get();
void calculate();
};
```

```cpp
void Calculator::get()
{
cout<<"\nEnter first number, operator, second number:\n";
cin>>num1;
cin>>op;
cin>>num2;
}
void Calculator::calculate()
{
switch(op)
{
case '+':
result=num1+num2;
cout<<" Answer = "<<result;
break;
case '-':
result=num1-num2;
cout<<" Answer = "<<result;
break;
case '*':
result=num1*num2;
cout<<" Answer = "<<result;
break;
case '/':
if(num2==0)
cout<<"\n Error. Not valid.";
result=num1/num2;
```

```cpp
cout<<" Answer = "<<result;
break;
}
}
int main()
{
char ag;
Calculator obj;
x:obj.get();
obj.calculate();
cout<<"\n Do another (y/n)? ";
cin>>ag;
if(ag=='y'||ag=='Y')
goto x;
return 0;
}
```

OUTPUT:

```
student@student-OptiPlex-3010:~$ g++ groupa5.cpp
student@student-OptiPlex-3010:~$ ./a.out
Enter first number, operator, second number:
10/3
Answer = 3.33333
Do another (y/n)? y
Enter first number, operator, second number:
12+100
Answer = 112
Do another (y/n)? n
```

Conclusion-

Understanding use and implementation of Scope Resolution Operator (::) in C++.