LAB - 2

THEORY

Inline fuction

> An inline function is a function that is expanded in line when it is invoked.

> To make a function inline, prefix the keyword inline to the function definition

Syntax:

```
intine return_type functionname (parameters)
  {
     //function code
  }
```

Pass by reference

In pass by reference during function call, the formal arguments in the called function become alias (alternative name) to the actual arguments in the calling function ie when we are working with formal arguments we are actually working with actual arguments.

Return by reference

Return by reference means a function is returning an alias of the variable in return statement. As a return by reference returns the alias of the varfable so the function call can be placed at left hand side of the assignment operator (=).

pointer and array

An array name can be treated as a constant pointer to the first element of the array. This means that we can use pointer arithmetic to access elements within an array.

Q1. WAP to find largest of two numbers using inline functions

Program

```
#Include <iostream>
using namespace std;
inline int largest (int a, int b)
{
        return (a>b) ? a : b ;
 }
int main()
{
 int num1, num2;
 cout << " Enter two numbers : "<<endl;
 cin >> num1 >>num2 ;
 cout << " The largest number is : "<< Largest (num1,num2)<<endl;
 return 0;
}
```

OUTPUT

```
Enter two numbers :
13 ↵
14↵
The Largest number is : 14
```

Q2.

Progrom

```
#include <iostream>
using namespace std;
float caldispr (float P, float dP=10)
{
    float dis = dP/100 *P;
         return P-dis;
}

int main()
{
  float pr,d;
  cout<<"Enter the price :"<<endl;
  cin>>pr;
  cout<<" Enter discount : "<<endl;
  cin>>d;
  cout<< "price with default discount:" << caldispr (pr) <<endl;
  cout<< " price without default discount:" << caldispr(pr,d);
  return 0;
}
```

OUTPUT

```
Enter the price : 1200 ↵
Enter discount : 12 ↵
price with default discount : 1080
price without default discount : 1056
```

Q3.

Program

```
#Include <iostream>
using namespace std;
void upemplsal (float &s, float &b)
 }
    s=s+b/100*s;
 {
int main()
}
  float sal,bonus;
  cout << "Enter your salary :"<<endl;
  cin>>sal;
  cout << "Enter the bonus:"<<endl;
  cin>> bonus;
  upemplsal (sal,bonus);
  cout <<"Your new salary is"<<sal <<endl;
  return 0;
 {
```

OUTPUT

```
Enter your salary : 40000↵
Enter the bonus : 10↵
Your new salary is 44000.
```

Q4. WAP to implement return by reference

Program

```
# Include <iostream>
using namespace std;
int &getelement (int arr[], int index)
    {
      return arr[index];
    }
 int main()
 {
  int numbers [5] = {10,20,30,40,50 };
  cout<<"Before modification:" <<numbers [2] <<endl;
  getelement (numbers,2) =100;
  cout<<"After modification:"<<numbers [2] <<endl;
  return 0;
 }
```

OUTPUT

```
Before modification:
 30
After modification:
 100
```

Q5- WAP to implement pointer with array

Program

```
#Include <iostream>
using namespace std;
int main()
{
   int arr[5] = {10,20,30,40,50}
   int *ptr = arr;
   cout << " Array elements using pointer:" <<endl;
   for (i=0 ; i<5 ;i++)
      {
        cout << *(ptr+i) << " ";
      }
    cout <<endl;
    return 0;
}
```

OUTPUT

```
Array ~~pointer~~ elements using pointer:
  10  20  30  40  50
```

DISCUSSION

Inline function :- It is a function that is expanded in line when it is invoked.

Reference :- A reference is an alias or an alternative name for an object.

Pointers :- A pointer is a variable that stores the address of another variable.

CONCLUSION

Hence in this lab we learnt to code in c++ using inline function, pass by reference, return by reference and also the pointers.