PART A

1.Write a C++ program to implement stack using following functions:
Push
Pop
Display

```
#include<iostream>
using namespace std;
#define size 5
class stack
{
        int stck[size];
        int tos;
        public:
        void init();
        void push();
        int pop();
        void display();
};
void stack::init()
{
        Tos=0;
}
void stack::push()
{
        int i;
        if(tos==size)
        {
                cout<<"stack overflowl \n";
                return;
        }
        cout<<"enter element \n";
        cin>>i;
        stck[tos]=i;
        tos++;
}
int stack::pop()
{
        if(tos==0)
```

```
        return 1;
        }
        tos--;
        cout<<”popped element is”<<stck[tos];
        return 0;
}
void stack::display()
{
if(tos==0)
{
        cout<<"stack empty \n";
        return;
}
for(int i=0;i<tos;i++)
{
        cout<<stck[i]<<"\n";
}
}
int main()
{
        int ch,i;
        stack s;
        s.init();
        while(1)
        {
                cout<<"1.push 2.pop 3.display \n";
                cin>>ch;
                switch(ch)
                {
                        case 1:s.push();
                        break;
                        case 2:s.pop();
                        break;
                        case 3:s.display();
                        break;
                        default: return 0;
                }
        }
}
```

2(a)Write a C++ program to read the data of n employee and compute net salary of each employee using pointer. Given that an employee class contains following :-
Data members: Employee no, Employee name, Basic salary, DA, IT,
Net salary, gross salary
Member functions: To read data, to calculate net salary and to print data
[DA = 52% of basic salary, IT = 30% of gross salary,
Gross salary = DA + Basic, Net salary = DA + Basic – IT].

```
#include<iostream>
using namespace std;
class employee
{
	int num, basic;
	long da,it,netsal,gsal;
	char name[20];
	public:
		void read();
		void disp();
		void calc();
	};
	void employee::read()
	{
		cout<<"enter employee id,name & basic salary \n";
		cin>>num>>name>>basic;
	}
	void employee::calc()
	{
			da=(0.52)*basic;
			gsal=da+basic;
			it=(0.3)*gsal;
			netsal=basic+da-it;
	}
	void employee::disp()
	{
		cout<<num<<"\t"<<name<<"\t\t\t"<<basic<<"\t\t"<<da<<"\t\t"<<it
		<<"\t\t" <<gsal<<"\t"<<netsal<<"\n";
	}
	int main()
	{
		int n;
		cout<<"enter no. of employee \n";
```

```
        cin>>n;
        employee e[n],*p;
        for(int i=0;i<n;i++)
        {
        p=&e[i];
        p->read();
        p->calc();
}
```

```
        cout<<"sl no. eid\t name \t\t basic salary\t \t DA\t\tgross salary\t income
        tax\t Net salary\n";
        for(int i=0;i<n;i++)
        {
        p=&e[i];
        p->disp();
        }
        return 0;
}
```

2)(b) Write a c++ program to find the largest of three numbers using inline function and defaullt argument concept.

```
#include<iostream>
using namespace std;
inline float lar(float a, float b ,float c=50 )
{
        return ((a>b&&a>c)?a:b>c?b:c);
}
int main()
{
        float x,y,z;
        cout<<"\nEnter three numbers:\n";
        cin>>x>>y>>z;
        cout<<"Largest= "<<lar(x,y,z);
        cout<<"\nTaking 3rd number as 50\n";
        cout<<"\nEnter two numbers:\n";
        cin>>x>>y;
        cout<<"\nLargest using default value= "<<lar(x,y)<<"\n";
        return 0;
}
```