Data Structures COC - 2073
Lab Plan – 5
(Stack Implementation Using Array and Link List)

Exercise-1:

Following is the declaration of *Stack* class and its member functions. Write the code to implement the definitions of these member functions.

```
int const STACKSIZE = 5;

class Stack
{
    private:
          int StackArray[STACKSIZE];
          int Top;
    public:
          Stack();
          bool IsEmpty();
          bool IsFull();
          int Size();
          void Push(int);
          void Pop();
          void Display();
};
```

Exercise-2:

Test the Stack class with the following *main*() function:

```
int main()
{
   Stack stk;
   stk.Push(100);  stk.Push(200); stk.Push(300); stk.Push(400); stk.Push(500);
   stk.Display();

   cout << "\nPoping..\n";
   stk.Pop();
   stk.Display();
   system("pause");
}
```

Exercise-3:

Implement the following applications of stack.

1. Infix to Postfix Conversion.
2. Evaluation of Postfix Expressions.
3. Decimal to Binary Conversion.
4. Checking Balanced Symbols.