1b. Write a Java program to implement the Stack using arrays. Write Push(), Pop(),and Display() methods to demonstrate its working.

```
import java.util.*;
public class stack {
      int top=-1;
      final int smax =5;
      int stk[]= new int[smax];

void push(int item)
{
      if(top>=smax-1)
            System.out.println("Stack full");
      else
      {
            ++top;
            stk[top]=item;
      }
}
void pop()
{
      if(top==-1)
            System.out.println("Stack empty");
      else
      {
            System.out.println("The Deleted element is "+stk[top]);
            top--;
      }
}
void display()
{
      if(top==-1)
            System.out.println("Stack Empty");
      else
      {
            System.out.println("Stack Contents are");
            for(int i=top;i>=0;i--)
                  System.out.println(stk[i]);
      }
}
      public static void main(String[] args) {
            stack s= new stack();
            int q=1;
            Scanner sc= new Scanner(System.in);
            while(true)
            {
                  System.out.println("Stack Menu");
                                    System.out.println("1. Push\n2. Pop\n
                  3. Display\n 4. Exit\n");
                  System.out.println("Enter your choice");
                  int ch= sc.nextInt();
```

```
                switch(ch)
                {
                case 1: System.out.println("Enter the item ");
                int item= sc.nextInt();
                s.push(item);
                break;

                case 2: s.pop();
                break;
                case 3: s.display();
                break;
                case 4: System.out.println("Exit from  Program");
                System.exit(0);
                break;
                default: System.out.println("Wrong choice");

                }

            }

        }

}
```