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Lab - 1

1. Write a program to simulate the working of stack using an array with the following:
a) Push b) Pop c) Display.

```
#include <stdio.h>
#include <stdlib.h>
# define N 5;
int stack[N]; int top = -1;
void push()
 {
   if (top == N){
          printf("Stack overflow");
              }
   else {
      int x;
      printf("Enter the element to be
          inserted: ");
      scanf("%d", &x);
      top++;
      stack[top] = x;
      }
}
void pop(){
   if (top== -1){
      printf("stack underflow");
    }
   else
    {
```

```
        int y;
        y = stack[top];
        top--;
        printf("The element deleted is %d", y);
    }
}
void display()
{
   if (toep == -1)
    {
      printf("stack is empty");
    }
   else
    {
      printf("The element in stack are:");
      for (int i=N; i>=0; i--)
       {
         printf("%d", stack[i]);
       }
    }
}
void main(){
  while(1){
      int choice;
      printf("\nEnter your choice : \n1.pus
        \n2.pop \n3. display");
      scanf("%d", &choice);
```

```
switch (choice)
{
  case 1: push();
          break;
  case 2: pop();
          break;
  case 3: display();
          break;
  case 4: exit(1);
          break;
  }
 }
}
```

Output:

```
Enter the your choice:
1.push
2.pop
3.display
1
Enter the element to be inserted: 95

Enter your choice:
1.push
2.pop
3.display
3
```

The elements in stack are: 0 0 0 0 95

Enter your choice:
1. push
2. pop
3. display
2.
The element deleted is 95

18/12/23