1BM19CS143
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DATE: 28.09.20

// Simulation the working of stack ~~using~~ using an array.

```
#include <stdio.h>
#include <stdlib.h>
#define STACK_SIZE 5
int top = -1;
int s[10];
int item;

int push()
{
  if (top == STACK_SIZE-1)
  {
    printf ("Stack over flow!\n");
    return;
  }
  top = top+1;
  s[top] = item;
}

int pop()
{
  if (top == -1) return -1;
return s[top--];
}
```

```
int display()
{
  int i;
  if (top == -1)
  {
    printf("Stack underflow\n");
    return 0;
  }
  printf("Contents of the stack:\n");
  for(i=top ; i>=0 ; i--)
  {
    printf("%d\n", s[i]);
  }
}

void main()
{
  int item_deleted;
  int choice;
  for(;;)
  {
    printf("\n1. Push\n2. Pop.\n3. Display\n4. Exit\n");
    printf("Enter your choice:\n");
    scanf("%d", &choice);
    switch(choice)
    {
      case 1: printf("Enter the item to be
inserted:\n");
      scan("%d", &item);
      push();
      break;
      case 2: item_deleted = pop();
      if(item_deleted == -1)
      printf("Stack underflow!\n");
```

```
else
    printf("Item deleted is %d \n", item_deleted);
    break;
    case 3: display();
    break;
    default:
    exit(0);
  }
 }
}
```