DS LAB- STACKS USING POINTERS

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#include <stdio.h>
#include<conio.h>
#define stack_size 5
int top= -1;
void push(int item, int s[], int *top)
{
   if(*top==stack_size-1)
   {
      printf("stack overflow\n");
      return;
   }
   *top=*top+1;
   s[*top]=item;
}
int pop(int s[], int *top)
{
   int item_deleted;
   if(*top==-1)
   {
      printf("stack underflow cannot delete\n");
      return 0;
   }
   item_deleted=s[*top];
```

```
    *top=*top-1;
    return item_deleted;
}
void display(int top, int s[])
{
    int i;
    if(top==-1)
    {
        printf("stack is empty\n");
        return;
    }
    printf("contents of the stack\n");
    for(i=0;i<=top;i++)
    {
        printf("%d\n",s[i]);
    }
}
void main()
{
    int item,s[11];
    int item_deleted;
    int choice;
    clrscr;
    for(;;)
    {
        printf("\n1-push\n2-pop\n3-display\n4-exit\n");
```

```
        printf("enter the choice:");
        scanf("%d",&choice);
        switch(choice)
        {
           case 1: printf("enter item to be inserted\n");
           scanf("%d",&item);
           push(item,s,&top);
           break;

           case 2:item_deleted=pop(s,&top);
           if(item_deleted!=0)
           printf("\n item deleted is %d\n", item_deleted);
           break;

           case 3:display(top,s);
           break;

           default:exit(0);
        }
     }
     getch();
}
```