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```
#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 item;

        printf("Enter the item to be inserted");

        scanf("%d",&item);

        top++;

        stack[top]=item;
    }

}

void pop()
{
    if(top<0)
```

```
        printf("Stack underflow");
    else
    {
        printf("topmost element will be deleted\n");
        top--;
    }
}

void display()
{
    printf("the new stack is:");
    for(int i=top;i>=0;i--)
        printf("%d \n",stack[i]);
}

void main()
{
    int choice;
    while(1)
    {

        printf("Enter 1.POP 2.PUSH 3.Display 4.Exit");
        scanf("%d",&choice);
        switch(choice)
        {
            case 1: push();break;
            case 2:pop();break;
```

```
case 3: display();break;
```

```
case 4:exit(0);
```

```
}
```

```
}
```

```
}
```

Output:

```
Enter 1.POP 2.PUSH 3.Display 4.Exit
1
Enter the item to be inserted
1
Enter 1.POP 2.PUSH 3.Display 4.Exit
1
Enter the item to be inserted
2
Enter 1.POP 2.PUSH 3.Display 4.Exit
1
Enter the item to be inserted
3
Enter 1.POP 2.PUSH 3.Display 4.Exit
3
the new stack is:3
2
1
Enter 1.POP 2.PUSH 3.Display 4.Exit
1
Stack overflow
Enter 1.POP 2.PUSH 3.Display 4.Exit
2
topmost element will be deleted
Enter 1.POP 2.PUSH 3.Display 4.Exit
2
topmost element will be deleted
Enter 1.POP 2.PUSH 3.Display 4.Exit
2
topmost element will be deleted
Enter 1.POP 2.PUSH 3.Display 4.Exit
2
Stack underflow
Enter 1.POP 2.PUSH 3.Display 4.Exit
4

Process returned 0 (0x0)   execution time : 41.772 s
Press any key to continue.
```