① Write a program to simulate working of stack with the following

    a) push
    b) pop
    c) Display

  The program should print appropriate messages for stack overflow & stack underflow.

```c
#include <stdio.h>

int main()
{   int s[100], size, top = -1, check = 1, c, i;
    printf(" Enter array size :\n");
    scanf("%d", &size);
    while(check == 1)
    {   printf(" select choice :\n");
        printf(" 1)Push \n 2)Pop \n 3) Display \n 4) Exit \n");
        scanf("%d", &c);

        switch(c)
        {
            case 1 : if (top == size -1)
                        { printf(" Overflow \n");
                          continue;
                        }
                      top = top+1;
                      printf(" Enter item \n");
                      scanf("%d", &s[top]);
                      continue;

            case 2 :  if (top == -1)
                        { printf(" Underflow \n");
                          continue;
                        }
                      top = top-1;
                      continue;
```

```c
case 3 :    if ( top == -1 )
                { printf ( " Enty stack \n " );
                  continue;
                }
            printf ( " stack : \n " );
            for ( i=0 ; i< = top ; i++ )
                { printf ( " ·/.d \n ", s[i] ); }
            continue ;

case 4 :    check = 0;
            break;

default :   printf ( " Invalid Input \n" );
            continue;


            }
    }
}
```