```c
#include <stdio.h>
    int STACK[100], TOP = -1, i, n, x, choice;
void push();
void pop();
void peep();
void display();
void main() {
    printf("\t Welcome to Implementation of stack using array !! \n");
    printf("Enter the element of stack (Maximum size = 100): ");
    scanf("%d",&n);
    do {
    printf("\n Stack Operation available: \n");
    printf("\t1. Push\t 2. Pop\t 3. Peep\t 4. Display\t 5. Exit \n");
    printf("\nEnter your choice:");
    scanf("%d",&choice);
    switch (choice) {
    case 1:
    push();
    break;
    case 2:
    pop();
    break;
    case 3:
    peep();
    break;
    case 4:
    display();
    break;
    case 5:
    printf("Exit: Program Finished !!");
    break;
    default:
    printf("Please enter a valid choice: 1, 2, 3, 4, 5 \n");
    }
  } while (choice != 5);
}
```

```c
// Function to perform push operation
void push() {
 if (TOP >= n-1) {
    printf("Stack Overflow \n");
 }
 else {
    printf("Enter the element to be pushed: ");
    scanf("%d",&x);
    TOP++;
    STACK[TOP] = x;
 }
}

// Function to perform pop operation
void pop() {
   if (TOP < 0) {
   printf("Stack Underflow: \n");
   }
   else {
   printf("The pop element is : %d \n",STACK[TOP]);
   TOP--;
   }
   }

   // Function to perform peep operation

   void peep() {
   printf("Enter the position of the element from the top which you want to peep: ");
   scanf("%d",&i);
   if (TOP - i + 1 < 0) {
      printf("Stack Underflow on peep \n");
   }
   else {
   printf("The %d  element from the top is : %d \n",i, STACK[TOP- i + 1]);
   }
   }
```

```c
// Function to display the stack
void display() {
if (TOP < 0) {
printf("The stack is empty");
}
else {
 printf("The elements in the stack are: ");
 for (i=TOP; i > -1; i--) {
      printf("\n %d \n", STACK[i]);
 }
}
}
```

```
dl07@itadmin:~$ gcc exp1.c
dl07@itadmin:~$ ./a.out
         Welcome to Implementation of stack using array !!
Enter the element of stack (Maximum size = 100): 3

 Stack Operation available:
        1. Push  2. Pop  3. Peep         4. Display      5. Exit

Enter your choice:1
Enter the element to be pushed: 2

 Stack Operation available:
        1. Push  2. Pop  3. Peep         4. Display      5. Exit

Enter your choice:1
Enter the element to be pushed: 3

 Stack Operation available:
        1. Push  2. Pop  3. Peep         4. Display      5. Exit

Enter your choice:1
Enter the element to be pushed: 4

 Stack Operation available:
        1. Push  2. Pop  3. Peep         4. Display      5. Exit

Enter your choice:4
The elements in the stack are:
 4

 3

 2
```

```
 Stack Operation available:
        1. Push  2. Pop  3. Peep         4. Display      5. Exit

Enter your choice:2
The pop element is : 4

 Stack Operation available:
        1. Push  2. Pop  3. Peep         4. Display      5. Exit

Enter your choice:2
The pop element is : 3

 Stack Operation available:
        1. Push  2. Pop  3. Peep         4. Display      5. Exit

Enter your choice:4
The elements in the stack are:
 2

 Stack Operation available:
        1. Push  2. Pop  3. Peep         4. Display      5. Exit

Enter your choice:3
Enter the position of the element from the top which you want to peep: 1
The 1  element from the top is : 2

 Stack Operation available:
        1. Push  2. Pop  3. Peep         4. Display      5. Exit

Enter your choice:4
The elements in the stack are:
 2

 Stack Operation available:
        1. Push  2. Pop  3. Peep         4. Display      5. Exit

Enter your choice:5
Exit: Program Finished !!dl07@itadmin:~$
```