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Source Code:

```
#include <stdio.h>
#include<conio.h>
int STK[100], TOP = -1, i, n, x, choice;
void Push();
void Pop();
void Peep();
void change();
void Display();
clrscr();
void main()
{
   printf("\t WELCOME to Implementation of STACK using array !! \n");
   printf("Enter the size 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("\n Enter 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 choide: 1, 2, 3, 4, 5 \n");
        }
    } while (choice != 5);
}

// 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++;
        STK[TOP] = x;
    }
}

// Function to perform POP Operation
void Pop()
{
    if (TOP < 0)
    {
        printf(" Stack Underflow \n");
    }
    else
    {
        printf(" The popped element is: %d \n", STK[TOP]);
        TOP--;
    }
}
```

```
// Function to perform PEEP Opeartion
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, STK[TOP - i + 1]);
   }
}

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

Output:

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

Enter your choice: 1
Enter the element to be pushed: 678

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: 4
Stack Underflow on Peep

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

Enter your choice: 4
The element in the stack are:
678

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

Enter your choice: 5
Exit: Program Finished !!
```