```
#include <stdio.h>

int STK[100], i, top = -1, n, x, choice;

void Push();
void Pop();
void Peep();
void display();

int main()
{
   printf("\t WELCOME to Implementation of STACK using an array !! \n");
   printf("Enter the size of Stack (Maximum size = 100): ");
   scanf("%d", &n);

   do
   {
      printf("\n1.Push\n2.Pop\n3.Peep\n4.Display\n5.Exit\n");
      printf("Select choice: ");
      scanf("%d", &choice);

      switch (choice)
      {
      case 1:
         if (top >= n - 1)
         {
            printf("Stack overflow\n");
         }
         else
         {
            printf("Enter the element to be pushed: ");
            scanf("%d", &x);
            top++;
            STK[top] = x;
         }
         break;
      case 2:
         if (top < 0)
         {
            printf("Stack underflow\n");
         }
         else
         {
            printf("The popped element is: %d\n", STK[top]);
            top--;
         }
         break;
      case 3:
         printf("Enter the position from the top to be peeped: ");
         scanf("%d", &i);
         if (top - i + 1 <= 0)
         {
            printf("Stack Underflow on Peep\n");
         }
         else
         {
```

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            printf("The %d element from the top is: %d\n", i, STK[top - i + 1]);
        }
        break;
    case 4:
        if (top < 0)
        {
            printf("Stack is empty\n");
        }
        else
        {
            printf("The elements in the stack are:\n");
            for (i = top; i >= 0; i--)
            {
                printf("%d\n", STK[i]);
            }
        }
        break;
    case 5:
        printf("Exiting the program\n");
        break;
    default:
        printf("Please enter a valid choice: 1, 2, 3, 4, or 5\n");
    }

} while (choice != 5);

return 0;
}
```

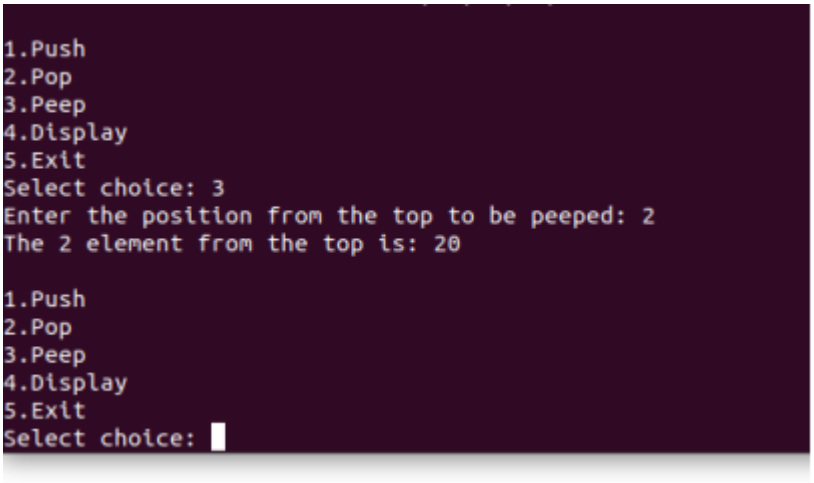
```
dl403@dl403-HP-ProDesk-400-G7-Microtower-PC:~$ gcc pradstack.c
dl403@dl403-HP-ProDesk-400-G7-Microtower-PC:~$ ./a.out
         WELCOME to Implementation of STACK using an array !!
Enter the size of Stack (Maximum size = 100): 15

1.Push
2.Pop
3.Peep
4.Display
5.Exit
Select choice: 1
Enter the element to be pushed: 10

1.Push
2.Pop
3.Peep
4.Display
5.Exit
Select choice: 1
Enter the element to be pushed: 20

1.Push
2.Pop
3.Peep
4.Display
5.Exit
Select choice: 1
Enter the element to be pushed: 13

1.Push
2.Pop
3.Peep
4.Display
5.Exit
Select choice: 12
Please enter a valid choice: 1, 2, 3, 4, or 5
```


1.Push
2.Pop
3.Peep
4.Display
5.Exit
Select choice: 3
Enter the position from the top to be peeped: 2
The 2 element from the top is: 20
1.Push
2.Pop
3.Peep
4.Display
5.Exit
Select choice: