

## **Source Code**

```
#include <stdio.h> int STK[100], TOP
= -1, i, n, x, choice; void Push(); void
Pop(); void Peep(); void change();
void Display();

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");
    }
}

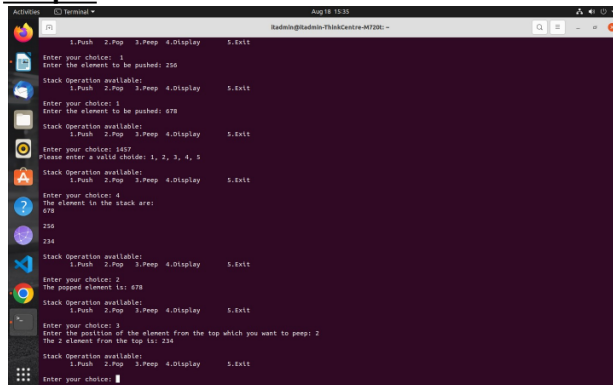
```

```

else
{ printf(" The element in the stack are:");
  for (i = TOP; i > -1; i--)
  { printf("\n %d \n", STK[i]);
  }
}
}

```

## Output



```

1.Push 2.Pop 3.Peek 4.Display 5.Exit
Enter your choice: 1
Enter the element to be pushed: 256
Stack Operation available:
1.Push 2.Pop 3.Peek 4.Display 5.Exit
Enter your choice: 2
Enter the element to be pushed: 678
Stack Operation available:
1.Push 2.Pop 3.Peek 4.Display 5.Exit
Enter your choice: 3
Please enter a valid choice: 1, 2, 3, 4, 5
Stack Operation available:
1.Push 2.Pop 3.Peek 4.Display 5.Exit
Enter your choice: 4
The element in the stack are:
678
256
234
Stack Operation available:
1.Push 2.Pop 3.Peek 4.Display 5.Exit
Enter your choice: 2
The popped element is: 678
Stack Operation available:
1.Push 2.Pop 3.Peek 4.Display 5.Exit
Enter your choice: 3
Enter the position of the element from the top which you want to peek: 2
The 2 element from the top is: 234
Stack Operation available:
1.Push 2.Pop 3.Peek 4.Display 5.Exit
Enter your choice:

```