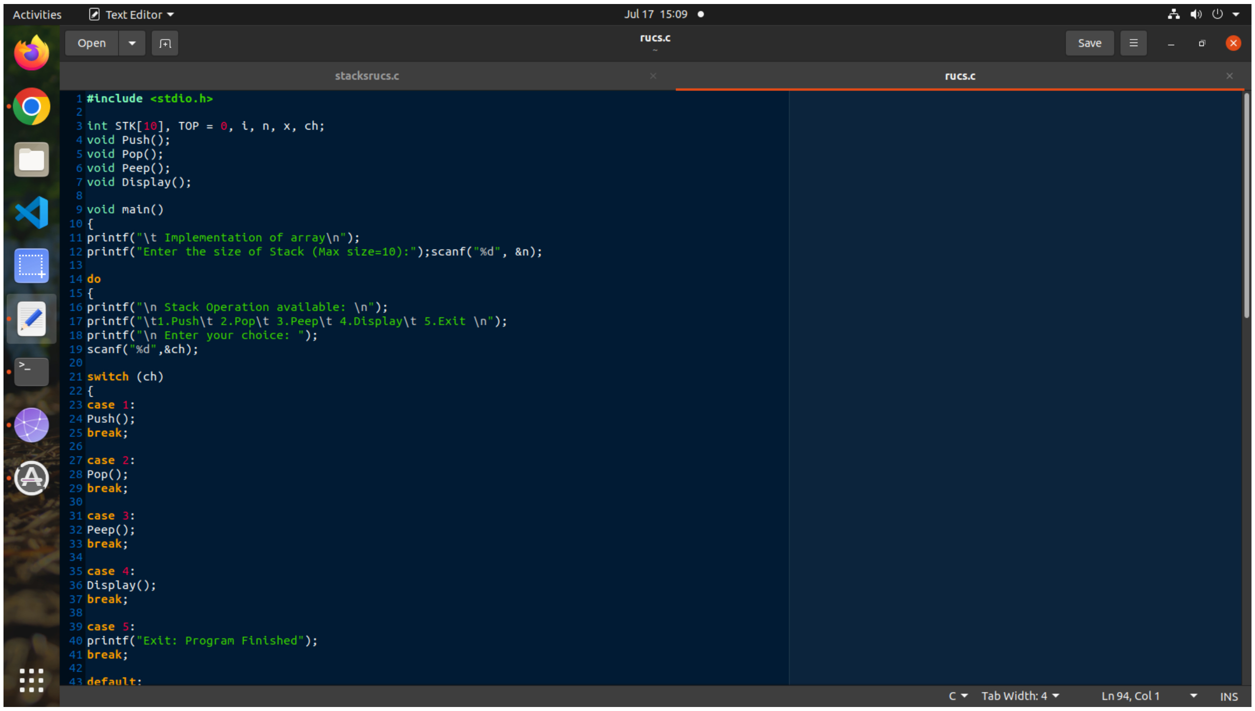
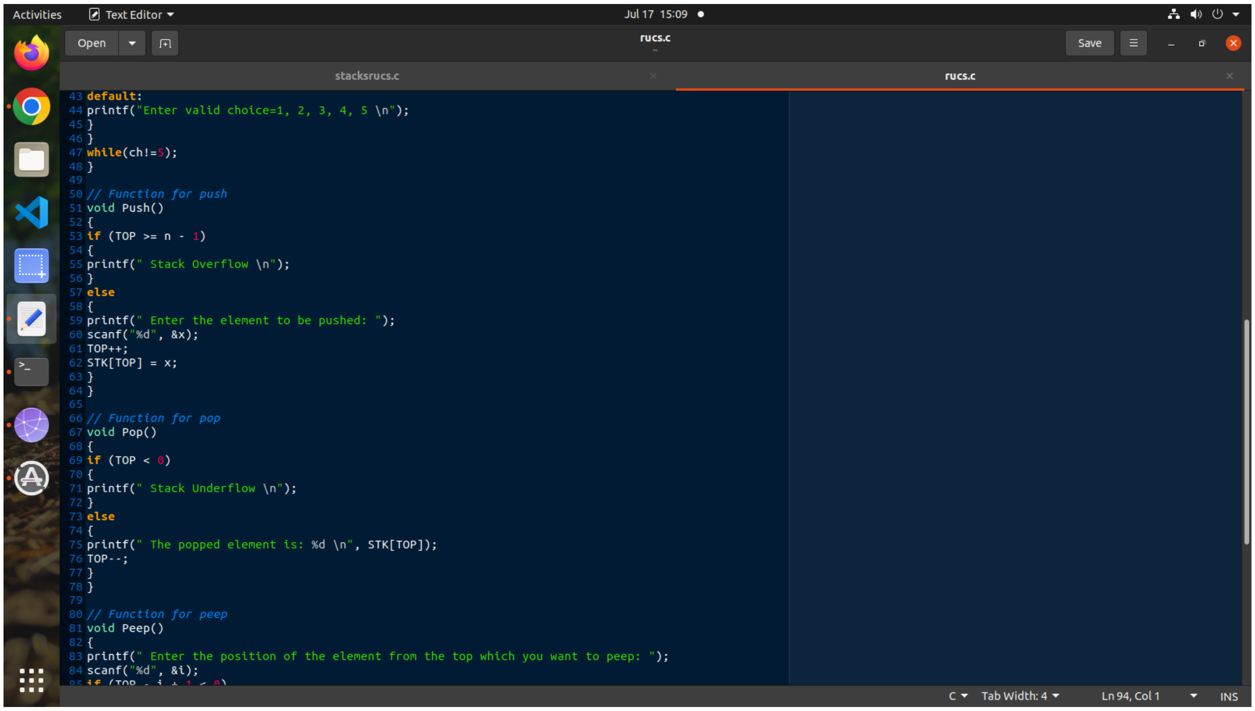
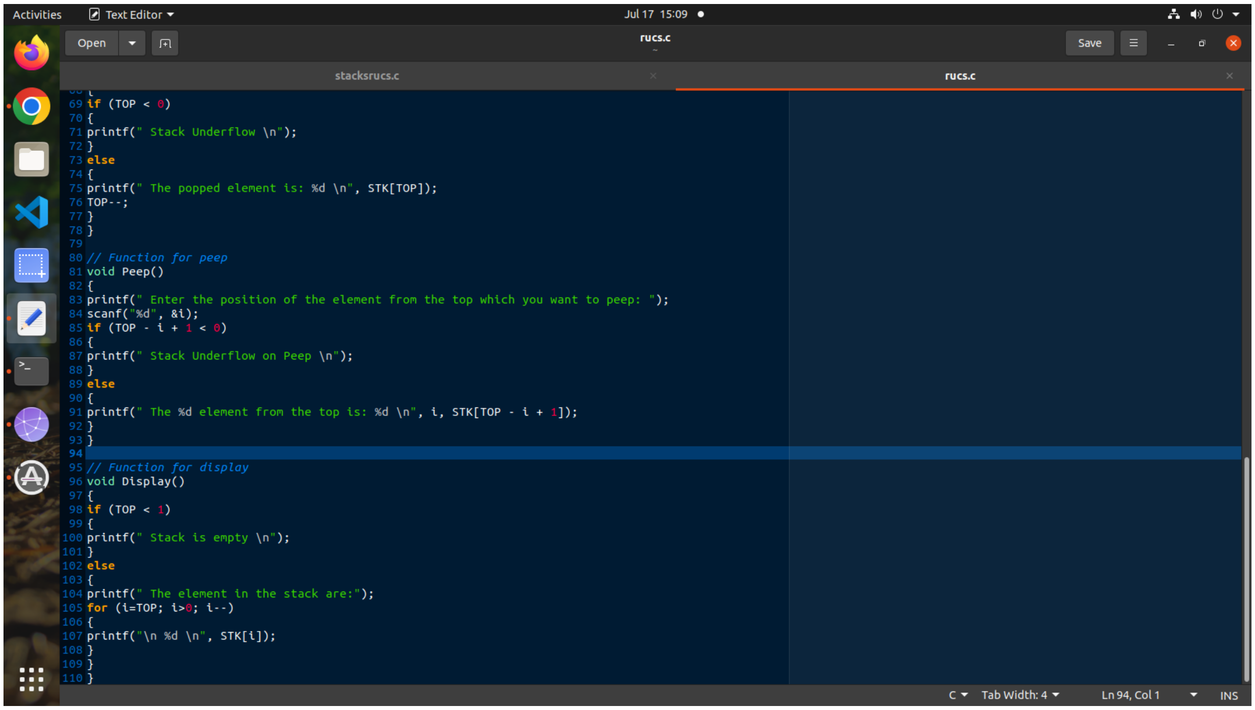
EXPERIMENT 1



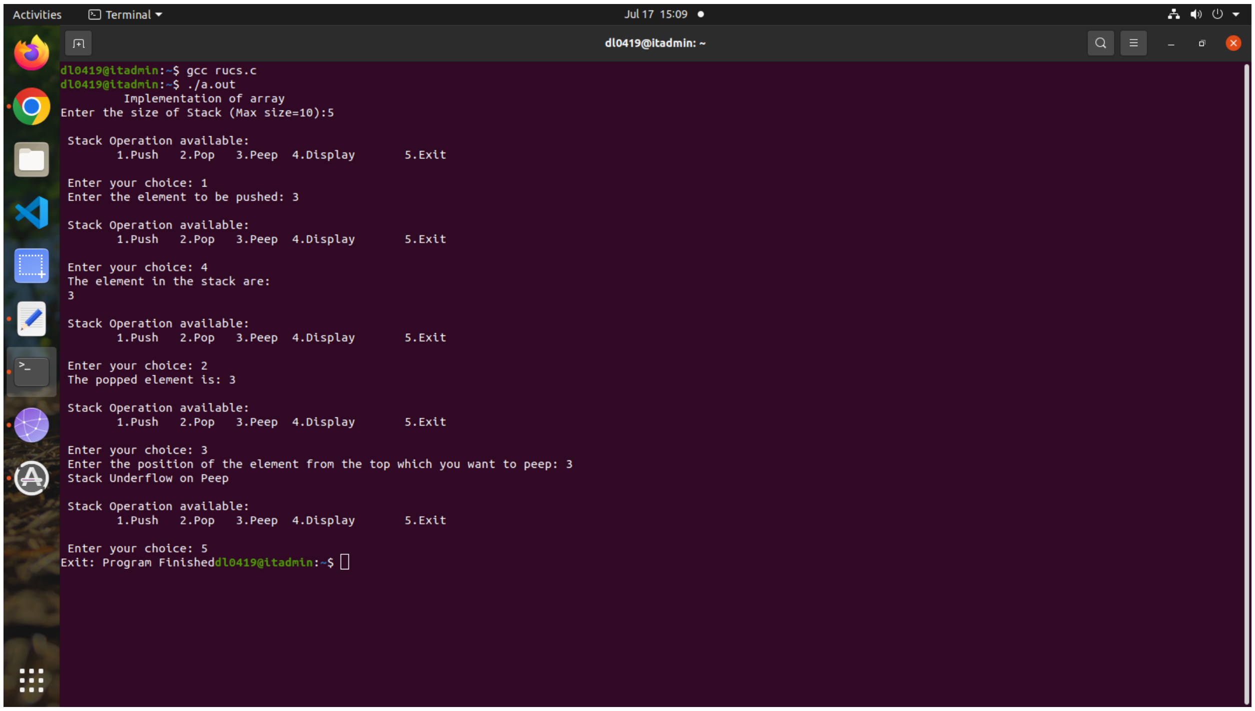
```c
#include <stdio.h>

int STK[10], TOP = 0, i, n, x, ch;
void Push();
void Pop();
void Peep();
void Display();

void main()
{
printf("\t Implementation of array\n");
printf("Enter the size of Stack (Max size=10):");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",&ch);

switch (ch)
{
case 1:
Push();
break;

case 2:
Pop();
break;

case 3:
Peep();
break;

case 4:
Display();
break;

case 5:
printf("Exit: Program Finished");
break;

default:
```



```c
default:
printf("Enter valid choice=1, 2, 3, 4, 5 \n");
}
}
while(ch!=5);
}

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

// Function for peep
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)
```



```c
{
if (TOP < 0)
{
printf(" Stack Underflow \n");
}
else
{
printf(" The popped element is: %d \n", STK[TOP]);
TOP--;
}
}

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



```
dl0419@itadmin:~$ gcc rucs.c
dl0419@itadmin:~$ ./a.out
         Implementation of array
Enter the size of Stack (Max size=10):5

 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: 4
 The element in the stack are:
 3

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

 Enter your choice: 2
 The popped element is: 3

 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: 3
 Stack Underflow on Peep

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

 Enter your choice: 5
Exit: Program Finisheddl0419@itadmin:~$ 
```