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Roll no - 9
Sy – IT

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#include <stdio.h>
int Q[100], FRONT = -1, REAR = -1, i, n, x, choice;
void insert();
void delete ();
void display();

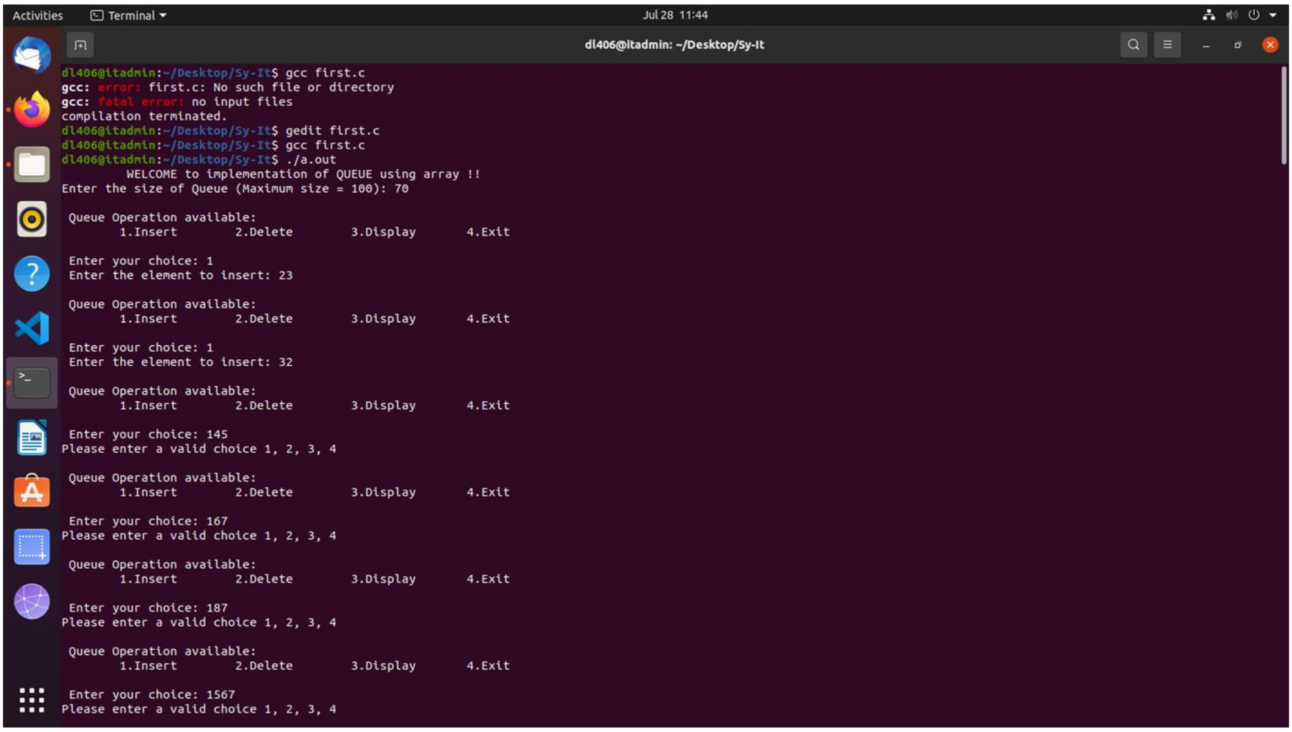
void main()
{
    printf("¥t WELCOME to implementation of QUEUE using array !! ¥n");
    printf("Enter the size of Queue (Maximum size = 100): ");
    scanf("%d", &n);
    do
    {
        printf("¥n Queue Operation available: ¥n");
        printf("¥t1.Insert ¥t2.Delete ¥t3.Display ¥t4.Exit ¥n");
        printf("¥n Enter your choice: ");
        scanf("%d", &choice);
        switch (choice)
        {
        case 1:
            insert();
            break;
        case 2:
            delete ();
            break;
        case 3:
            display();
            break;
        case 4:
            printf("Exit: Program Finished !! ");
            break;
        default:
            printf("Please enter a valid choice 1, 2, 3, 4 ¥n");
            break;
        }
    } while (choice != 4);
}

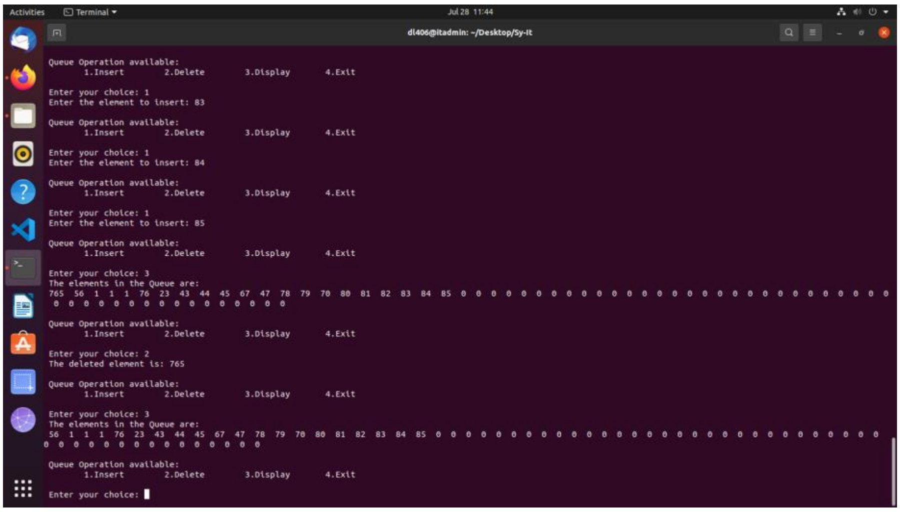
void insert()
{
    if (REAR >= n - 1)
    {
        printf(" Queue Overflow ! ¥n");
    }
    else
    {
```

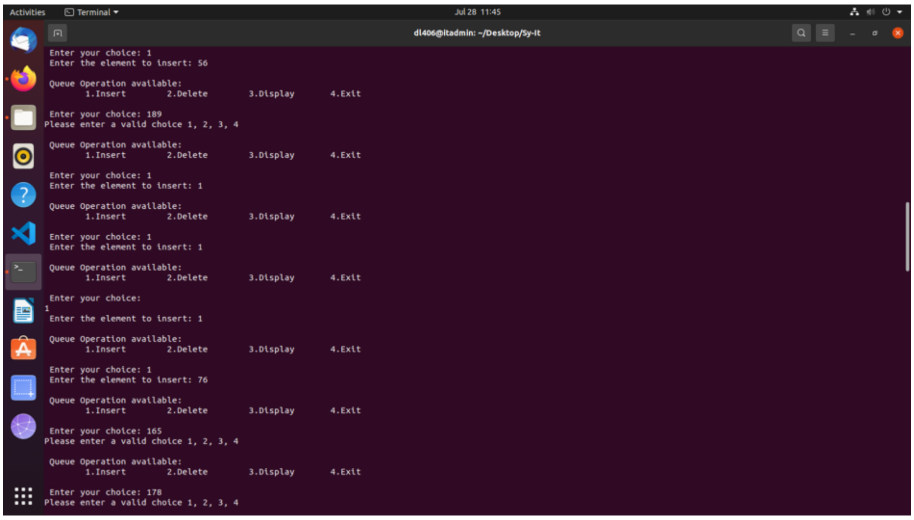
```
        printf(" Enter the element to insert: ");
        scanf("%d", &x);
        REAR++;
        Q[REAR] = x;
        if (FRONT == -1)
        {
            FRONT = 0;
        }
    }
}

void delete ()
{
    if (FRONT == -1)
    {
        printf(" Queue Underflow ! ¥n");
    }
    else
    {
        printf(" The deleted element is: %d ¥n", Q[FRONT]);
        if (FRONT == REAR)
            FRONT = REAR = -1;
        else
            FRONT++;
    }
}

void display()
{
    if (REAR < 0)
    {
        printf(" Queue is empty ! ¥n");
    }
    else
    {
        printf(" The elements in the Queue are: ¥n");
        for (i = FRONT; i < n; i++)
        {
            printf(" %d ", Q[i]);
        }
        printf("¥n");
    }
}
```


Activities
Terminal
Jul 28 11:44
dl406@itadmin: ~/Desktop/Sy-It
dl406@itadmin:~/Desktop/Sy-It$ gcc first.c
gcc: error: first.c: No such file or directory
gcc: fatal error: no input files
compilation terminated.
dl406@itadmin:~/Desktop/Sy-It$ gedit first.c
dl406@itadmin:~/Desktop/Sy-It$ gcc first.c
dl406@itadmin:~/Desktop/Sy-It$ ./a.out
WELCOME to implementation of QUEUE using array !!
Enter the size of Queue (Maximum size = 100): 70
Queue Operation available:
1.Insert 2.Delete 3.Display 4.Exit
Enter your choice: 1
Enter the element to insert: 23
Queue Operation available:
1.Insert 2.Delete 3.Display 4.Exit
Enter your choice: 1
Enter the element to insert: 32
Queue Operation available:
1.Insert 2.Delete 3.Display 4.Exit
Enter your choice: 145
Please enter a valid choice 1, 2, 3, 4
Queue Operation available:
1.Insert 2.Delete 3.Display 4.Exit
Enter your choice: 167
Please enter a valid choice 1, 2, 3, 4
Queue Operation available:
1.Insert 2.Delete 3.Display 4.Exit
Enter your choice: 187
Please enter a valid choice 1, 2, 3, 4
Queue Operation available:
1.Insert 2.Delete 3.Display 4.Exit
Enter your choice: 1567
Please enter a valid choice 1, 2, 3, 4


Activities
Terminal
Jul 28 11:44
dl406@itadmin: ~/Desktop/Sy-It
Queue Operation available:
1.Insert 2.Delete 3.Display 4.Exit
Enter your choice: 1
Enter the element to insert: 83
Queue Operation available:
1.Insert 2.Delete 3.Display 4.Exit
Enter your choice: 1
Enter the element to insert: 84
Queue Operation available:
1.Insert 2.Delete 3.Display 4.Exit
Enter your choice: 1
Enter the element to insert: 85
Queue Operation available:
1.Insert 2.Delete 3.Display 4.Exit
Enter your choice: 3
The elements in the Queue are:
765 56 1 1 1 76 23 43 44 45 67 47 78 79 70 80 81 82 83 84 85 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Queue Operation available:
1.Insert 2.Delete 3.Display 4.Exit
Enter your choice: 2
The deleted element is: 765
Queue Operation available:
1.Insert 2.Delete 3.Display 4.Exit
Enter your choice: 3
The elements in the Queue are:
56 1 1 1 76 23 43 44 45 67 47 78 79 70 80 81 82 83 84 85 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Queue Operation available:
1.Insert 2.Delete 3.Display 4.Exit
Enter your choice:


Activities
Terminal
Jul 28 11:45
dl406@itadmin: ~/Desktop/Sy-It
Enter your choice: 1
Enter the element to insert: 56
Queue Operation available:
1.Insert 2.Delete 3.Display 4.Exit
Enter your choice: 189
Please enter a valid choice 1, 2, 3, 4
Queue Operation available:
1.Insert 2.Delete 3.Display 4.Exit
Enter your choice: 1
Enter the element to insert: 1
Queue Operation available:
1.Insert 2.Delete 3.Display 4.Exit
Enter your choice: 1
Enter the element to insert: 1
Queue Operation available:
1.Insert 2.Delete 3.Display 4.Exit
Enter your choice:
1
Enter the element to insert: 1
Queue Operation available:
1.Insert 2.Delete 3.Display 4.Exit
Enter your choice: 1
Enter the element to insert: 76
Queue Operation available:
1.Insert 2.Delete 3.Display 4.Exit
Enter your choice: 165
Please enter a valid choice 1, 2, 3, 4
Queue Operation available:
1.Insert 2.Delete 3.Display 4.Exit
Enter your choice: 178
Please enter a valid choice 1, 2, 3, 4