

Options Available:

1. EnQueue
2. DeQueue
3. Display
4. Exit

-----  
Enter your choice: 2

Queue is empty, Underflow  
-----

Enter your choice: 1  
Enter value to insert: 21

Value of 21 inserted in the queue.  
-----

Enter your choice: 1  
Enter value to insert: 22

Value of 22 inserted in the queue.  
-----

Enter your choice: 1  
Enter value to insert: 23

Value of 23 inserted in the queue.  
-----

Enter your choice: 1  
Enter value to insert: 24

Value of 24 inserted in the queue.  
-----

Enter your choice: 1  
Enter value to insert: 25

Value of 25 inserted in the queue.  
-----

Enter your choice: 1  
Enter value to insert: 26

Queue Overflow  
-----

Enter your choice: 2

Value of 21 deleted from the queue.  
-----

Enter your choice: 1  
Enter value to insert: 20

Value of 20 inserted in the queue.  
-----

Enter your choice: 3

Queue items are: 22, 23, 24, 25, 20

-----  
Enter your choice: 4  
Exiting program.

Process returned 0 (0x0)    execution time : 559.996 s  
Press any key to continue.

## Lab Program 3b

### Program

```
#include <stdio.h>
#define SIZE 5
int queue[SIZE];
int front = -1, rear = -1;

void enqueue(int value)
{
    if ((rear+1)%SIZE == front)
    {
        printf("\n Queue Overflow");
        return;
    }
    if (front == -1)
    {
        front = rear = 0;
        queue[rear] = value;
    }
    else
    {
        rear = (rear+1)%SIZE;
        queue[rear] = value;
    }
    printf("\n Value of %d inserted in the queue.", value);
}

int dequeue()
{
    if (front == -1)
    {
        printf("Queue is Empty, Underflow");
        return;
    }
    if (front == rear)
    {
        front = rear = -1;
    }
    else
    {
        front = (front+1)%SIZE;
    }
    return queue[front];
}
```

```
else
{
    int item = queue[front];
    front = (front+1)%SIZE;
    printf("Dequeue value = %d", item);
    if (front == rear)
    {
        front = rear = -1;
    }
    return item;
}

void display()
{
    if (front == -1)
    {
        printf("\n Queue is empty.");
        return;
    }
    printf("\n Queue items are:");
    int i = front;
    while (i != rear)
    {
        printf("%d ", queue[i]);
        i = (i+1)%SIZE;
    }
    printf("%d\n", queue[rear]);
}

int main()
{
    int choice, value;
    printf("\n Options Available \n");
    printf("1. EnQueue \n 2. DeQueue \n");
}
```

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1. Conduct

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[illegible]

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3

$$\cdot (1+i)$$

2/2/20

Chiamate

and 2.5

Enter

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\_\_\_\_\_

Enter

Enter

Enter

Value

Enter

Enter

Vol. 1

3/6/25

Ex 1

$$E = n + \frac{1}{2}$$

Ex. 1.

$$= 1 + \frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16} + \frac{1}{32} + \frac{1}{64} + \frac{1}{128} + \frac{1}{256} + \frac{1}{512} + \frac{1}{1024} + \frac{1}{2048} + \frac{1}{4096} + \frac{1}{8192} + \frac{1}{16384} + \frac{1}{32768} + \frac{1}{65536} + \frac{1}{131072} + \frac{1}{262144} + \frac{1}{524288} + \frac{1}{1048576} + \frac{1}{2097152} + \frac{1}{4194304} + \frac{1}{8388608} + \frac{1}{16777216} + \frac{1}{33554432} + \frac{1}{67108864} + \frac{1}{134217728} + \frac{1}{268435456} + \frac{1}{536870912} + \frac{1}{1073741824} + \frac{1}{2147483648} + \frac{1}{4294967296} + \frac{1}{8589934592} + \frac{1}{17179869184} + \frac{1}{34359738368} + \frac{1}{68719476736} + \frac{1}{137438953472} + \frac{1}{274877906944} + \frac{1}{549755813888} + \frac{1}{1099511627776} + \frac{1}{2199023255552} + \frac{1}{4398046511104} + \frac{1}{8796093022208} + \frac{1}{17592186044416} + \frac{1}{35184372088832} + \frac{1}{70368744177664} + \frac{1}{140737488355328} + \frac{1}{281474976710656} + \frac{1}{562949953421312} + \frac{1}{1125899906842624} + \frac{1}{2251799813685248} + \frac{1}{4503599627370496} + \frac{1}{9007199254740992} + \frac{1}{18014398509481984} + \frac{1}{36028797018963968} + \frac{1}{72057594037927936} + \frac{1}{144115188075855872} + \frac{1}{288230376151711744} + \frac{1}{576460752303423488} + \frac{1}{1152921504606846976} + \frac{1}{2305843009213693952} + \frac{1}{4611686018427387904} + \frac{1}{9223372036854775808} + \frac{1}{18446744073709551616} + \frac{1}{36893488147419103232} + \frac{1}{73786976294838206464} + \frac{1}{147573952589676412928} + \frac{1}{295147905179352825856} + \frac{1}{590295810358705651712} + \frac{1}{1180591620717411303424} + \frac{1}{2361183241434822606848} + \frac{1}{4722366482869645213696} + \frac{1}{9444732965739290427392} + \frac{1}{18889465931478580854784} + \frac{1}{37778931862957161709568} + \frac{1}{75557863725914323419136} + \frac{1}{151115727451828646838272} + \frac{1}{302231454903657293676544} + \frac{1}{604462909807314587353088} + \frac{1}{1208925819614629174706176} + \frac{1}{2417851639229258349412352} + \frac{1}{4835703278458516698824704} + \frac{1}{9671406556917033397649408} + \frac{1}{19342813113834066795298816} + \frac{1}{38685626227668133590597632} + \frac{1}{77371252455336267181195264} + \frac{1}{154742504910672534362390528} + \frac{1}{309485009821345068724781056} + \frac{1}{618970019642690137449562112} + \frac{1}{1237940039285380274899124224} + \frac{1}{2475880078570760549798248448} + \frac{1}{4951760157141521099596496896} + \frac{1}{9903520314283042199192993792} + \frac{1}{19807040628566084398385987584} + \frac{1}{39614081257132168796771975168} + \frac{1}{79228162514264337593543950336} + \frac{1}{158456325028528675187087900672} + \frac{1}{316912650057057350374175801344} + \frac{1}{633825300114114700748351602688} + \frac{1}{1267650600228229401496703205376} + \frac{1}{2535301200456458802993406410752} + \frac{1}{5070602400912917605986812821504} + \frac{1}{10141204801825835211973625643008} + \frac{1}{20282409603651670423947251286016} + \frac{1}{40564819207303340847894502572032} + \frac{1}{81129638414606681695789005144064} + \frac{1}{162259276829213363391578010288128} + \frac{1}{324518553658426726783156020576256} + \frac{1}{649037107316853453566312041152512} + \frac{1}{1298074214633706907132624082305024} + \frac{1}{2596148429267413814265248164610048} + \frac{1}{5192296858534827628530496329220096} + \frac{1}{10384593717069655257060992658440192} + \frac{1}{20769187434139310514121985316880384} + \frac{1}{41538374868278621028243970633760768} + \frac{1}{83076749736557242056487941267521536} + \frac{1}{166153499473114484112975882535043072} + \frac{1}{332306998946228968225951765070086144} + \frac{1}{664613997892457936451903530140172288} + \frac{1}{1329227995784915872903807060280344576} + \frac{1}{2658455991569831745807614120560689152} + \frac{1}{5316911983139663491615228241121378304} + \frac{1}{10633823966279326983230456482242756608} + \frac{1}{21267647932558653966460912964485513216} + \frac{1}{42535295865117307932921825928971026432} + \frac{1}{85070591730234615865843651857942052864} + \frac{1}{170141183460469231731687303715884105728} + \frac{1}{340282366920938463463374607431768211456} + \frac{1}{680564733841876926926749214863536422912} + \frac{1}{1361129467683753853853498429727072845824} + \frac{1}{2722258935367507707706996859454145691648} + \frac{1}{5444517870735015415413993718908291383296} + \frac{1}{10889035741470030830827987437816582766592} + \frac{1}{21778071482940061661655974875633165533184} + \frac{1}{43556142965880123323311949751266331066368} + \frac{1}{87112285931760246646623899502532662132736} + \frac{1}{174224571863520493293247799005065324265472} + \frac{1}{348449143727040986586495598010130648530944} + \frac{1}{696898287454081973172991196020261297061888} + \frac{1}{1393796574908163946345982392040522594123776} + \frac{1}{2787593149816327892691964784081045188247552} + \frac{1}{557518629$$



Value of 24 inserted in the queue  
- - - - -

Enter your choice : 1

Enter value to insert : 25

Value of 25 inserted in the queue  
- - - - -

Enter your choice : 1

Enter value to insert : 26

Queue Overflow  
- - - - -

Enter your choice : 3

Queue items are 21, 22, 23, 24, 25  
- - - - -

Enter your choice : 4

Exiting program