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Roll no :19

#include<stdio.h>

#define SIZE 5

int q[SIZE], front = -1, rear = -1, c, n;

void input\_dq();

void output\_dq();

void insertf();

void insertr();

void deletef();

void deleter();

void display();

int main() {

do {

printf("Menu:\n1.Input Restricted Deque\t2.Output Restricted Deque\t3. Exit\nEnter choice of

deque:");

}

scanf("%d", &c);

switch (c) {

case 1:

input\_dq();

break;

case 2:

output\_dq();

break;

case 3:

return 0;

default:

printf("Invalid Choice\n");

} while (c != 3);

}

return 0;

void input\_dq() {

do {

printf("Input Restricted Deque:\n1.Insert at rear\t2.Delete at front\t3.Delete at rear\t4. Display\

t5.Exit\nEnter operation:");

scanf("%d", &c);

switch (c) {

case 1:

insertr();

break;

case 2:

deletef();

break;

if (front == -1) {

printf("Underflow\n");

} else {

printf("Deleted element is %d\n", q[front]);

if (front

==

SIZE -1) {

front = 0;

}else{

front++;

}

}

}

void display() {

int i, j;

i = front;

j = rear;

if (i

==

-1) {

printf("Queue is Empty\n");

} else {

printf("Queue is:\n");

if (**i <**= j) {

while (i **<**= j) {

printf("%d\n", q[i]);

i++;

}

} else {

while (i <= SIZE - 1) {

printf("%d\n", q[i]);

i**++;**

}

for (i = 0; i **<= j;** i++) {

}

printf("%d\n", q[i]);

}

}

}

Input Restricted Deque:

1.Insert at rear

2.Delete at front

3.Delete at rear

4.Display

5.Exit

Enter operation**:1**

Enter number to insert:333

Input Restricted Deque:

1.Insert at rear

2.Delete at front

3.Delete at rear

4.Display

5.Exit

Enter operation:4

Queue is:

234

333

Input Restricted Deque:

1.Insert at rear

2.Delete at front

3.Delete at rear

4.Display

5.Exit

Enter operation:2

Deleted element is 234

Input Restricted Deque: 1.Insert at rear Enter operation: 5 Menu:

2.Delete at front

3.Delete at rear

4.Display

5.Exit

1.Input Restricted Deque

2.Output Restricted Deque

3.Exit

Enter choice of deque:2 Output Restricted Deque: 1.Insert at front

2.Insert at rear

3.Delete at rear

4.Display

5.Exit

Enter operation**:1**

Enter number to insert:235

Output Restricted Deque: 1.Insert at front

2.Insert at rear

3.Delete at rear

4.Display

5.Exit

Enter operation**:3**

Deleted element is 333

Output Restricted Deque:

? 1.Insert at front

Enter operation**:1**

2.Insert at rear

3.Delete at rear

4.Display

5.Exit

Enter number to insert:298

Output Restricted Deque:

1.Insert at front

2.Insert at rear

3.Delete at rear

4.Display

5. Exit

Enter operation:4

Queue is:

298

235

Output Restricted Deque:

1.Insert at front

2.Insert at **rear**

3.Delete at rear

4.Display

5.Exit

Enter operation:5 Menu**:**

1.Input Restricted Deque Enter choice of deque:3 d104188itadmin:~$ /a out

2.Output Restricted Deque

3.Exit

Menu**:**

1.Input Restricted Deque Enter choice of deque:1

2.Output Restricted Deque

3.Exit

Input Restricted Deque: 1.Insert at rear

2.Delete at front

3.Delete at rear

4.Display

5.Exit

Enter operation:1

Enter number to insert:234

Input Restricted Deque: 1.Insert at rear

2.Delete at front

3.Delete at rear

4.Display

5.Exit

Enter operation:**1**

Enter number to insert:333

Input Restricted Deque:

1.Insert at rear

2.Delete at front

3.Delete at rear

4.Display

5.Exit

Enter operation:4 Queue is:

234

**333**

Input Restricted Deque:

1.Insert at rear

Enter operation:2

2.Delete at front

3.Delete at rear

4.Display

5.Exit

Deleted element is 234

Input Restricted Deque:

A 1.Insert at rear

ว

Enter operation:5 Menu**:**

1.Input Restricted Deque Enter choice of deque:2

2.Delete at front

3.Delete at rear

4.Display

5.Exit

2.Output Restricted Deque

3.Exit

Output Restricted Deque:

1.Insert **at** front

2.Insert at rear

3.Delete at rear

4.Display

5.Exit

Enter operation:1

Enter number to insert:235

Output Restricted Deque: 1.Insert at front

2.Insert at rear

3.Delete at rear

4.Display

5.Exit

Enter operation:3

Deleted element is 333

Output Restricted Deque: 1.Insert at front

2.Insert at **rear**

3.Delete at rear

4.Display

5.Exit

Enter operation:1

Enter number to insert:290

Output Restricted Deque: 1.Insert at front

2.Insert at rear

3.Delete at rear

4.Display

5.Exit