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Syit 22
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#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
```

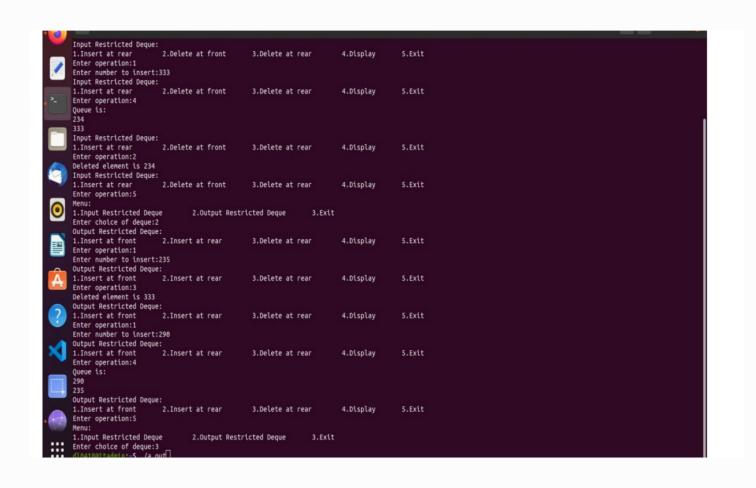
```
deque:");
scanf("%d", &c);
switch (c) {
case 1:
input_dq();
break;
case 2:
output_dq();
break;
case 3:
return 0;
default:
printf("Invalid Choice\n");
} while (c != 3);
```

```
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 \le j) {
while (i \le j) {
printf("%d\n", q[i]);
i++;
} else {
while (i <= SIZE - 1) {
printf("%d\n", q[i]);
i++;
for (i = 0; i \le j; i++) {
```

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



Menu:	Name of the State				
1.Input Restricted Deque	2.Output Res	tricted Deque 3.Ex	it		
Enter choice of deque:1					
Input Restricted Deque:					
	2.Delete at front	3.Delete at rear	4.Display	5.Exit	
Enter operation:1					
Enter number to insert:2:	34				
Input Restricted Deque:					
	2.Delete at front	Delete at rear	4.Display	5.Exit	
Enter operation:1					
Enter number to insert:3	33				
Input Restricted Deque:					
	2.Delete at front	Delete at rear	4.Display	5.Exit	
Enter operation:4					
Queue is:					
234					
333					
Input Restricted Deque:					
	2.Delete at front	Delete at rear	4.Display	5.Exit	
Enter operation:2					
Deleted element is 234					
Input Restricted Deque:					
	2.Delete at front	3.Delete at rear	4.Display	5.Exit	
Enter operation:5					
Menu:					
1.Input Restricted Deque	2.Output Res	tricted Deque 3.Ex	it		
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:2	35				
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:					
	2.Insert at rear	3.Delete at rear	4.Display	5.Exit	
Enter operation:1					
Enter number to insert:2	90				
Output Restricted Deque:					
	2.Insert at rear	3.Delete at rear	4.Display	5.Exit	