PRACTICAL NO : 8 B

AIM: Implement a Queue using Linked List and perform the Queue operations: Enqueue, Dequeue and Print using Menu Driver Program such as 1.Add, 2.Delete and 3.Print and 4. Exit.

PROGRAM :

```
//Queue Implementation using linked list
#include<stdio.h>
#include<stdlib.h>

struct node{
int data;
struct node* next;
};
int data;
struct node* front = NULL;
struct node* rear = NULL;

int enqueue(){
//Creating the node first
struct node* p;
p = (struct node*)malloc(sizeof(struct node));
if(p == NULL){

//Checking the queue is overflow or not
printf("The Queue is overflow\n");
}
printf("Enter the data:\t");
scanf("%d", &p->data);
```

```
p->next = NULL;
if (front == NULL && rear == NULL)
{
// First element in queue
front = rear = p;
}
else
{

// Add to the end of the queue
rear->next = p;
rear = p;
}
return 0;
}
// Deleting data in queue.(Dequeue function):
int dequeue(){
struct node* p;
if(front == NULL && rear == NULL){
printf("The Queue is underflow\n");
}
else
{
struct node *p = front;
printf("The deleting data is %d\n", front->data);
front = front->next;
if (front == NULL)
{
```

```
rear = NULL;
}
free(p);
}
return 0;
}
void display(){
struct node* display;
display = front;
if(front == NULL){
printf("The Queue is empty can not print the element.\n\n");
}else{
printf("The data in the Queue:\t\n");
while(display != NULL){
printf("%d\t", display -> data);
display = display -> next;
}
printf("\n" );
}
}
int main(){
int choice;
printf("Queue Implementation using Linked List\n");
printf("Choices\n1.Enqueue\t2.Dequeue\t3.Print\t4.Exit\n");
do
{ printf("Enter the choice:\t");
scanf("%d",&choice);
switch (choice)
```

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```
{

case 1:

enqueue();

break;

case 2:

dequeue();

break;

case 3:

display();

break;

case 4:

printf("You exit the program successfully.\n");

break;

default:

printf("Please enter valid choice as mention\n");

break;

}

} while (choice != 4);

return 0;

}
```

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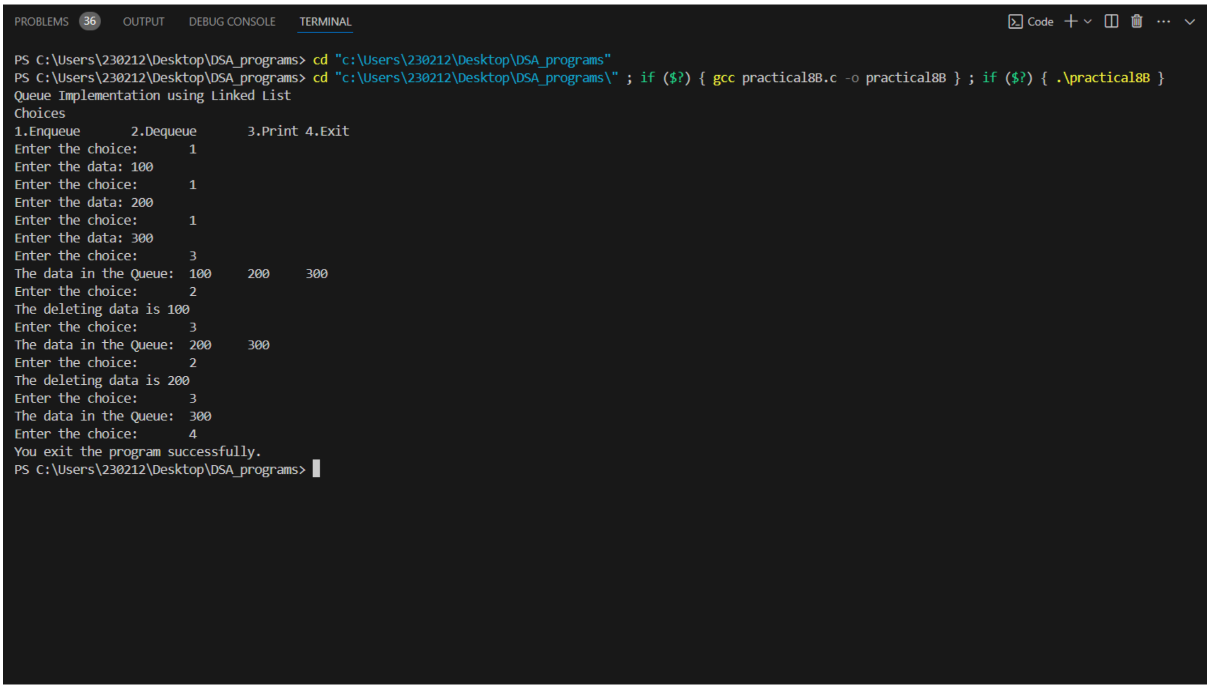
OUTPUT



```
PS C:\Users\230212\Desktop\DSA_programs> cd "c:\Users\230212\Desktop\DSA_programs"
PS C:\Users\230212\Desktop\DSA_programs> cd "c:\Users\230212\Desktop\DSA_programs\" ; if ($?) { gcc practical8B.c -o practical8B } ; if ($?) { .\practical8B }
Queue Implementation using Linked List
Choices
1.Enqueue       2.Dequeue       3.Print 4.Exit
Enter the choice:       1
Enter the data: 100
Enter the choice:       1
Enter the data: 200
Enter the choice:       1
Enter the data: 300
Enter the choice:       3
The data in the Queue:  100     200     300
Enter the choice:       2
The deleting data is 100
Enter the choice:       3
The data in the Queue:  200     300
Enter the choice:       2
The deleting data is 200
Enter the choice:       3
The data in the Queue:  300
Enter the choice:       4
You exit the program successfully.
PS C:\Users\230212\Desktop\DSA_programs> 
```

GITHUB LINK : https://github.com/AmolNagargoje04/Data-Structure-practical