

**Rajagiri College of Social Sciences**

**Department of Computer Science**

**Mini Project in Data Structure:**

**Quiz Game using Linked Queue**

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**MSc Computer Science(Data Analytics)**

```
#include<stdio.h>

#define SIZE 5

struct queue
{
    int inp_arr[SIZE];
    int Rear;
    int Front;
};

typedef struct queue QUEUE;
QUEUE q;

int isFull()
{
    if((q.Front==q.Rear+1) || (q.Front==0 && q.Rear==SIZE-1))
        return 1;
    return 0;
}

int isEmpty()
{
    if(q.Front==-1)
        return 1;
    else
        return 0;
}

void enqueue(int insert_item)
{
    if((q.Rear + 1)%SIZE == q.Front)
```

```
    printf("Full \n");
else
{
if(q.Front== -1)
    q.Front=0;
    q.Rear=(q.Rear+1)%SIZE;
    q.inp_arr[q.Rear]=insert_item;
}
}

void dequeue()
{
if(q.Front== -1)
{
    printf("Empty\n");
    return ;
}
else
{
    if(q.Front==q.Rear)
    {
        q.Front=-1;
        q.Rear=-1;
    }
else
    {
        q.Front=(q.Front+1)%SIZE;
    }
    printf("Element deleted from the Queue: %d \n",q.inp_arr[q.Front]);
}
```

```

}

int traverse()
{
    int count=0,i;
    if(q.Front==-1)
        printf("Empty Queue \n");
    else
    {
        // printf("Queue: \n");
        if(q.Front==0 && q.Rear==0)
            count=1;
        else
        {
            count=1;
            for(i=q.Front; i!=q.Rear;i=(i+1)%SIZE)
            {
                // printf("%d",q.inp_arr[i]);
                count+=1;
            }
        }
        printf("\n");
        // printf("\ncount %d :",count);
    }
    return count;
}

void pattern(int count)
{
    if(count==1)
    {

```

```
    printf("\n#\n");
}
else if (count==2)
{
    printf("\n #");
    printf("\n###\n");
}
else if (count==3)
{
    printf("\n #");
    printf("\n ###");
    printf("\n#####\n");
}
else if (count==4)
{
    printf("\n #");
    printf("\n ###");
    printf("\n #####");
    printf("\n#####\n");
}
else if (count==5)
{
    printf("\n #");
    printf("\n ###");
    printf("\n #####");
    printf("\n #####");
    printf("\n#####\n");
}
printf("\n\n");
```

```

}

int *randomarray(int *arr)
{
    int randomnumber,i,j;
    srand(time(NULL));
    randomnumber=rand()%10;
    int num,num1;
    num=num1=randomnumber;
    for (i=0;i<randomnumber;i++)
    {
        arr[i]=num;
        num--;
    }
    for (j=randomnumber+1;j<=10;j++)
    {
        arr[j]=num1+1;
        num1++;
    }
    return arr;
}

void correct(){
    if(!isFull())
    {
        enqueue(1);
    }
    printf("\nRight Ans\n");
}

void wrong(){
    if(!isEmpty())

```

```

{
printf("Removing");
    dequeue();
}
printf("Wrong Ans\n");
}
void main()
{
    q.Front = q.Rear = -1;
    int option,choice,i,num;
    int flag=1;
    int chk=0;

    int a[10];
    int *arr1=randomarray(a);
    printf("\n-----");
    printf("\n\t\t\tHello Gamer");
    printf("\n\t\t\tIt is quick quiz game.");
    printf("\n-----");

    while(flag)
    {
        int i,count;
        i=0;
        count=0;
        for(i=0;i<10;i++)
        {
            if(arr1[i]>10 || arr1[i]<0)
                arr1[i]=10;

```

```
num=arr1[i];
if(num==1)
{
    printf("\nWhich animal is known as the ship of the Desert?\n");
    printf("\n1.Giraffe \n2.Camel \n3.Ostrich \n4.Sheep");
    printf("\nPlease Choose an Option :");
    scanf("%d",&option);
    if(option ==2)
    {
        correct();
    }
    else
    {
        wrong();
    }
}
```

```
else if(num==2)
{
    printf("\nWhat is the capital of Japan?\n");
    printf("\n1.Tokyo \n2.Paris \n3.Beijeing \n4.Seoul");
    printf("\nPlease Choose an Option :");
    scanf("%d",&option);
    if(option ==1)
    {
        correct();
    }
}
```



```
        else
        {
            wrong();
        }

    }

    else if(num==3)
    {
        printf("\nName the largest planet of our solar system?\n");
        printf("\n1.Saturn \n2.Jupiter \n3.Earth \n4.Mars");
        printf("\nPlease Choose an Option :");
        scanf("%d",&option);
        if(option ==2)
        {
            correct();
        }
        else
        {
            wrong();
        }
    }

    else if(num==4)
    {
        printf("\nHow many consonants are there in the english alphabet?\n");
        printf("\n1.21\n2.22 \n3.23 \n4.24");
        printf("\nPlease Choose an Option :");
        scanf("%d",&option);
```

```
        if(option ==1)
        {
            correct();
        }
        else
        {
            wrong();
        }
    }

    else if(num==5)
    {
        printf("\nWho was the first Prime Minister of India?\n");
        printf("\n1.Pandit Jawaharlal Nehru \n2.Mahatma Gandhi \n3.Sardar Vallabhai
Patel \n4.Indira Gandhi");
        printf("\nPlease Choose an Option :");
        scanf("%d",&option);
        if(option ==1)
        {
            correct();
        }
        else
        {
            wrong();
        }
    }

    else if(num==6)
    {
        printf("\nWho among the following is known as Payyoli Express?\n");
```

```
printf("\n1.Hima Das \n2.Dutee Chand \n3.P T Usha \n4.Shiny Abraham");
printf("\nPlease Choose an Option :");
scanf("%d",&option);
if(option ==3)
{
    correct();
}
else
{
    wrong();
}
}

else if(num==7)
{
    printf("\nWhat is the colour of an emerald?\n");
    printf("\n1.Yellow \n2.Blue \n3.Green \n4.Black");
    printf("\nPlease Choose an Option :");
    scanf("%d",&option);
    if(option ==3)
    {
        correct();
    }
    else
    {
        wrong();
    }
}
```

```
        else if(num==8)
        {
            printf("\nWhich app has the most total users?\n");
            printf("\n1.Snapchat \n2.Whatsapp \n3.Facebook \n4.Instagram");
            printf("\nPlease Choose an Option :");
            scanf("%d",&option);
            if(option ==4)
            {
                correct();
            }
            else
            {
                wrong();
            }
        }

        else if(num==9)
        {
            printf("\nHow many molecules of oxygen does ozone have?\n");
            printf("\n1.2 \n2.3 \n3.4 \n4.5");
            printf("\nPlease Choose an Option :");
            scanf("%d",&option);
            if(option ==2)
            {
                correct();
            }
            else
            {
```

```

        wrong();
    }
}

else if(num==10)
{
    printf("\nWho was the first Chief Justice of Kerala High Court?\n");
    printf("\n1.K T koshi \n2.Manikumar \n3.N V Ramana \n4.Ayesha Malik");
    printf("\nPlease Choose an Option :");
    scanf("%d",&option);
    if(option ==1)
    {
        correct();
    }
    else
    {
        wrong();
    }
}

count = traverse();
// printf("Count - %d\nFront - %d\nRear - %d",count,q.Front,q.Rear);
pattern(count);
if(count == 5)
{
    chk=1;
    break;
}

}

if(chk == 1)

```

```
        {
            printf("Congratulation!!! You have won the game\n\n");
        }
    else
    {
        printf("OOPS!!! You have lost the game\n\n");
    }
    printf("Do you want to play again ?\n1.Yes\t0.No");
    scanf("%d",&flag);
    q.Front=q.Rear=-1;
    }
}
```

-----  
Hello Gamer  
It is quick quiz game.  
-----

Which animal is known as the ship of the Desert?

- 1.Giraffe
- 2.Camel
- 3.Ostrich
- 4.Sheep

Please Choose an Option :2

Right Ans

#

#

What is the capital of Japan?

- 1.Tokyo
- 2.Paris
- 3.Beijeing
- 4.Seoul

Please Choose an Option :1

Right Ans

#  
###

Name the largest planet of our solar system?

- 1.Saturn
- 2.Jupiter
- 3.Earth
- 4.Mars

Please Choose an Option :2

Right Ans

```
#  
###  
#####
```

How many consonants are there in the english alphabet?

- 1.21
- 2.22
- 3.23
- 4.24

Please Choose an Option :1

Right Ans

```
#  
###  
#####  
#####
```



Who was the first Prime Minister of India?

- 1.Pandit Jawaharlal Nehru
  - 2.Mahatma Gandhi
  - 3.Sardar Vallabhai Patel
  - 4.Indira Gandhi
- Please Choose an Option :1

Right Ans

```
  #  
 ###  
#####  
#####  
#####  
#####
```

Congratulation!!! You have won the game

Do you want to play again ?  
1.Yes 0.No|

-----  
Hello Gamer  
It is quick quiz game.  
-----

What is the colour of an emerald?

- 1.Yellow
- 2.Blue
- 3.Green
- 4.Black

Please Choose an Option :2

Wrong Ans

Empty Queue

Who among the following is known as Payyoli Express?

- 1.Hima Das
- 2.Dutee Chand
- 3.P T Usha
- 4.Shiny Abraham

Please Choose an Option :2

Wrong Ans

Empty Queue

Who was the first Prime Minister of India?

- 1.Pandit Jawaharlal Nehru
- 2.Mahatma Gandhi
- 3.Sardar Vallabhai Patel
- 4.Indira Gandhi

Please Choose an Option :|

-----  
Hello Gamer  
It is quick quiz game.  
-----

What is the colour of an emerald?

- 1.Yellow
- 2.Blue
- 3.Green
- 4.Black

Please Choose an Option :3

Right Ans

#

Who among the following is known as Payyoli Express?

- 1.Hima Das
- 2.Dutee Chand
- 3.P T Usha
- 4.Shiny Abraham

Please Choose an Option :1

RemovingElement deleted from the Queue: 0

Wrong Ans

Empty Queue

Who was the first Prime Minister of India?

- 1.Pandit Jawaharlal Nehru
- 2.Mahatma Gandhi
- 3.Sardar Vallabhai Patel
- 4.Indira Gandhi

Please Choose an Option :|