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A160

Assignment 7

Repl: <https://replit.com/@omilokhande10/circular-queue>

GitHub Link: <https://github.com/Omiz10/Queue>

#include <stdio.h>

#include<stdlib.h>

struct queue

{

int size,f,r;

int \*arr;

};

void enqueue(struct queue \*q,int value)

{

if((q->r+1)%q->size==q->f)

{

printf("queue is full\n");

}

else

{

q->r=(q->r+1)%q->size;

q->arr[q->r]=value;

printf("element added successfully\n");

}

}

void dequeue(struct queue \*q)

{

if(q->f==q->r)

{

printf("stack is empty\n");

}

else

{ int value;

q->f=(q->f+1)%q->size;

value=q->arr[q->f];

printf("element deleted successfully: %d\n",value);

}

}

int main(void)

{

struct queue q;

q.arr=(int \*)malloc(sizeof(int));

q.size=500;

q.f=0;

q.r=0;

enqueue(&q,10);

enqueue(&q,20);

enqueue(&q,30);

enqueue(&q,40);

enqueue(&q,50);

enqueue(&q,60);

enqueue(&q,70);

printf("elements present in the array:\n");

for(int i=1;i<=q.r;i++)

{

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

}

dequeue(&q);

dequeue(&q);

dequeue(&q);

}