



#include<stdio.h>

#include<stdlib.h>

#define max 6

int queue[max];

int front=-1;

int rear=-1;

void enqueue(int element)

{

if(front==-1 && rear == -1)

{

front=0;

rear=0;

queue[rear]=element;

}

else if((rear+1)%max==front)

{

printf("queue is overflow");

}

else{

rear=(rear+1)%max;

queue[rear]=element;

}

}

int dequeue()

{

if((front==-1)&&(rear==-1))

{

printf("\n queue is underflow");

}

else if(front==rear)

{

printf("\n the dequeued element is %d", queue[front]);

front=-1;

rear=-1;

}

else{

printf("\n the dequeued element is %d", queue[front]);

front=(front+1)%max;

}

}

void display()

{

int i=front;

if(front==-1 && rear==-1)

{

printf("\n queue is empty");

}

else

{

printf("\n elements in a queue are:");

while(i<rear)

{

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

i=(i+1)%max;

}

}

}

int main()

{

int choice=1,x;

while(1)

{

printf("\n 1. insert an element\n");

printf("\n 2. delete an element\n");

printf("\n 3. display all elements\n");

printf("\n 4. exit \n");

printf("\n enter your choice");

scanf("%d", &choice);

switch(choice)

{

case 1 : printf("\n enter element to be inserted\n");

scanf("%d",&x);

enqueue(x);

break;

case 2 : dequeue();

break;

case 3: display();

break;

case 4: exit(0);

break;

default : printf("enter a valid choice");

}

}

return(0);

}