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**WAP TO SHOW IMPLEMENTATION OF PRIORITY QUEUE**

CODE:

#include<stdio.h>

#include<stdlib.h>

#define size 10

int Q[size];

int rear=-1;

int front=-1;

void display();

void check(int);

void priority\_insertion(int);

void priority\_deletion(int);

void main()

{

int choice,ch;

while(1)

{

printf("\n\*\*\*MENU\*\*\*\n");

printf("\n1. Insert");

printf("\n2. Delete");

printf("\n3. Display");

printf("\n4. Exit");

printf("\nEnter your choice: ");

scanf("%d",&choice);

switch(choice)

{

case 1:printf("\nEnter the value to be inserted: ");

scanf("%d",&ch);

priority\_insertion(ch);

break;

case 2:printf("\nEnter the value to be deleted: ");

scanf("%d",&ch);

priority\_deletion(ch);

break;

case 3:display();

break;

case 4:exit(0);

break;

default:printf("Invalid input!\n");

}

}

}

void priority\_insertion(int item)

{

if(rear>=(size-1))

{

printf("Queue Overflow\n");

return;

}

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

{

front++;

rear++;

Q[rear]=item;

return;

}

else

{

check(item);

rear++;

}

}

void check(int item)

{

int i,j;

for(i=0;i<=rear;i++)

{

if(item>=Q[i])

{

for(j=rear+1;j>i;j--)

{

Q[j]=Q[j-1];

}

Q[i]=item;

return;

}

}

Q[i]=item;

}

void priority\_deletion(int item)

{

int i;

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

{

printf("Queue underflow\n");

return;

}

else

{

for(i=0;i<=rear;i++)

{

if(item==Q[i])

{

while(i<rear)

{

Q[i]=Q[i+1];

i++;

}

Q[i]=-99;

rear--;

if(rear==-1)

front=-1;;

return;

}

}

printf("\n '%d' element not found in priority queue!",item);

}

}

void display()

{

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

printf("Queue is Empty\n");

else

{

printf("Queue elements in descending order:\n");

while(front<=rear)

{

printf("%d ",Q[front]);

front++;

}

front=0;

}

}

OUTPUT:











