ASCENDING PRIORITY QUEUE

#include <stdio.h>

#include <string.h>

#include <stdlib.h>

#define MAX 4

int pq[MAX];

int count = 0;

int d = 0;

void insert(int data){

int i = 0;

if(count==MAX)

{

printf("Queue overflow\n");

return;

}

// if queue is empty, insert the data

if(count == 0){

pq[count++] = data;

}else{

// start from the right end of the queue

for(i = count - 1; i >= 0; i-- ){

//if data is smaller shift right

if(data<pq[i]){

pq[i+1] = pq[i];

}else{

break;

}

}

// insert the data

pq[i+1] = data;

count++;

}

}

int removeData(){

if(count==0)

return -1;

if(d>=count)

return -1;

return pq[d++];

}

void display()

{int i;

if (count==0)

{

printf("queue is empty\n");

return;

}

printf("Contents of queue: ");

for(i=d;i<count;i++)

{

printf("%d ",pq[i]);

}

printf("\n");

}

int main() {

int choice,item;

for(;;)

{

printf("\n1:insert 2:delete\_smallest 3:display 4:exit\n");

printf("Enter the choice :");

scanf("%d",&choice);

switch(choice)

{

case 1:printf("Enter the item to be inserted :");

scanf("%d",&item);

insert(item);

break;

case 2:item=removeData();

if(item==-1)

printf("Queue is empty\n");

else

printf("item deleted=%d\n",item);

break;

case 3:display();

break;

default:exit (0);

}

}

}

