TASK1

public class PriorityQueueUsingArray

{

// create an array

int arr[];

int size;

int index=0;

// constructor

PriorityQueueUsingArray(int size)

{

this.size=size;

arr=new int[size];

}

public void insert(int data) {

// insert data in array in any order

// handle all possible exceptions/errors

if(index==size)

{

System.out.println("Sorry Array is full!");

}

else

{

arr[index] = data;

index++;

}

}

public void display()

{

for(int i=0; i<size; i++)

{

System.out.println("values are:"+ arr[i]);

System.out.println();

}

}

public int extractMax()

{

// return and remove max value from array

// handle all possible exceptions/errors

if(size==0)

{

System.out.println("Sorry array is empty!");

}

else

{

for(int i=0; i<size; i++)

{

for(int j=i+1; j<size; j++)

{

if(arr[i]>arr[j])

{

int temp=arr[i];

arr[i]=arr[j];

arr[j]=temp;

}

}

}

}

int removedElement=arr[size-1];

--size;

return removedElement;

}

public int getMax()

{

// just return max value from array

// handle all possible exceptions/errors

return arr[size-1];

}

public boolean searchData(int data) {

// search data from array

// handle all possible exceptions/errors

for(int i=0; i<size; i++)

{

if(data==arr[i])

{

return 1;

}

else

{

retrun 0;

}

}

}

public static void main(String[] args)

{

// Test the main method by creating object for PriorityQueueUsingArray class

PriorityQueueUsingArray obj1=new PriorityQueueUsingArray(3);

// insert some values using insert method

obj1.insert(4);

obj1.insert(2);

obj1.insert(6);

obj1.display();

// call extractMax method and print output

int removedElement=obj1.extractMax();

System.out.print("Removed Element is:"+removedElement);

int max=obj1.getMax();

System.out.print("Max value is:"+max);

boolean searchData1=obj1.searchData(4);

System.out.println("The are present:"+searchData1);

// call extractMax method and print output

// insert some values using insert method

// call getMax method and print output

// call extractMax method and print output

}

}