using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

using System.Threading.Tasks;

namespace احتمالات

{

internal class Program

{

static void Main(string[] args)

{

Console.WriteLine("Please Enter Number Ingredients:");

int IngredientsNumber = int.Parse(Console.ReadLine());

Console.WriteLine("Please Enter Your Ingredients :");

double[] Ingredients = new double[IngredientsNumber];

for (int i = 0; i < Ingredients.Length; i++)

{

Ingredients[i] = int.Parse(Console.ReadLine());

}

Array.Sort(Ingredients);

double median;

if (IngredientsNumber % 2 != 0)

{

median = Ingredients[IngredientsNumber / 2];

Console.WriteLine("median" + median);

}

else

{

median = (Ingredients[(IngredientsNumber / 2 - 1)] + Ingredients[(IngredientsNumber / 2)]) / 2;

Console.WriteLine("median" + median); double range = Ingredients.Last() - Ingredients.First();

Console.WriteLine("range" + range);

int FirstQuartileIndex = (int)Math.Floor((double)IngredientsNumber / 4);

double FirstQuartile;

if (IngredientsNumber % 4 == 0)

{

FirstQuartile = (Ingredients[FirstQuartileIndex - 1] + Ingredients[FirstQuartileIndex]) / 2;

Console.WriteLine("Q1=" + FirstQuartile);

}

else

{

FirstQuartile = Ingredients[FirstQuartileIndex];

Console.WriteLine("Q1=" + FirstQuartile);

}

int ThirdQuartileIndex = (int)Math.Ceiling((double)IngredientsNumber \* 3 / 4);

double ThirdQuartile;

if (IngredientsNumber % 4 == 0)

{

ThirdQuartile = (Ingredients[ThirdQuartileIndex - 1] + Ingredients[ThirdQuartileIndex]) / 2;

Console.WriteLine("Q3=" + ThirdQuartile);

}

else

{

ThirdQuartile = Ingredients[ThirdQuartileIndex];

Console.WriteLine("Q3=" + ThirdQuartile);

}

double interquartile = ThirdQuartile - FirstQuartile;

Console.WriteLine("interquartile" + interquartile);

double lowerBound = FirstQuartile - (1.5 \* interquartile);

double upperBound = ThirdQuartile + (1.5 \* interquartile);

Console.WriteLine("Outlier Region Boundaries:" + lowerBound + upperBound);

int counter = 0;

int max = 0;

double mode = 0;

double[] U = new double[Ingredients.Length];

Array.Copy(Ingredients, U, Ingredients.Length);

for (int i = 0; i < Ingredients.Length; i++)

{

counter = 0;

for (int p = 0; p < Ingredients.Length; p++)

{

if (Ingredients[i] == U[p])

{

counter++;

}

if (counter >= 2)

{

if (counter > max)

{

max = counter;

mode = Ingredients[i];

}

}

}

}

}

}

}

}