# A test of "programming for beginners" – March 2016

## Task 4. Histogram

Given are **n integers**in the range [**1**... **1000** ]. Some percentage of them **p1**are under 200, another rate **p2**are from 200 to 399, another percentage **p3**are from 400 to 599, another percentage **p 4**are from 600 to 799 and other **p5**percent are from 800 up to write a program that calculates and prints the percentages **p1**, **p2**, **p3**, **p4**and **p5**.

**Example**: we have n = **20**: numbers 53, 7, 56, 180, 450, 920, 12, 7, 150, 250, 680, 2, 600, 200, 800, 799, 199, 46, 128, 65. We get the following distribution and visualization:

|  |  |  |  |
| --- | --- | --- | --- |
| **Range** | **Numbers in the range** | **Number of numbers** | **Percentage** |
| < 200 | 53, 7, 56, 180, 12, 7, 150, 2, 199, 46, 128, 65 | 12 | p1 = 12 / 20 \* 100 = **60.00**% |
| 200. 399 | 250 , 200 | 2 | p2 = 2 / 20 \* 100 = **10.00**% |
| 400. 599 | 450 | 1 | p3 = 1 / 20 \* 100 = **5.00**% |
| 600. 799 | 680, 600 , 799 | 3 | p 4 = 3 / 20 \* 100 = **15.00**% |
| ≥ 800 | 920, 800 | 2 | p5 = 2 / 20 \* 100 = **10.00**% |

### Login

The first line of the entrance stands the integer **n**(1 ≤ **n**≤ 1000) – number of numbers . The next **n the order**stands **as a** **whole number** in the range [**1**... **1000** ] -the numbers to be calculated on the histogram.

### Exit

To be printed on the console **the histogram** - **5 rows**, each of which contains a number between 0% and 100%, with an accuracy of two digits after the decimal point, e.g. 25.00%, 66.67% 57.14%.

### Sample input and output

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Login** | **Exit** |  | **Login** | **Exit** |  | **Login** | **Exit** |  | **Login** | **Exit** |  | **Login** | **Exit** |
| **3**  1  2  999 | 66.67%  0.00%  0.00%  0.00%  33.33% | **4**  53  7  56  999 | 75.00%  0.00%  0.00%  0.00%  25.00% | **7**  800  801  250  199  399  599  799 | 14.29%  28.57%  14.29%  14.29%  28.57% | **9**  367  99  200  799  999  333  555  111  9 | 33.33%  33.33%  11.11%  11.11%  11.11% | **14**  53  7  56  180  450  920  12  7  150  250  680  2  600  200 | 57.14%  14.29%  7.14%  14.29%  7.14% |

Testing of the solution: [https://judge.softuni.bg/Contests/Practice/Index/169#3](https://www.microsofttranslator.com/bv.aspx?from=bg&to=en&a=https%3A%2F%2Fjudge.softuni.bg%2FContests%2FPractice%2FIndex%2F169%233).