# A test of "programming for beginners"- 23 July 2017

## Task 1. Dance Hall

A group of dancers for a new Hall. Like Hall, which is **rectangular** and has the dimensions:

**L –  length and W-the width (in m).**In the Hall there is a **square** of side-wardrobe **A**and **a rectangular** bench with an area **10 times smaller** than the area of the Hall.

The place that occupies a dancer is **40 cm** **²**and extra free traffic needs another **7000 cm²**.

Write a program that calculates how many dancers can fit in the gym and move freely.

The result should be **rounded** to the nearest **whole** **number down**.

# Login

From the console read **3 rows**:

**1.** **L –   length in metres of the Auditorium – a real number in the interval [10.00 ... 100.00] ;**

**2.** **W –  width of the room in metres – a real number in the interval [10.00 ... 100.00];**

**3.** **A-side of the closet in meters – a real number in the interval [2.00... 20.00];**

# Exit

To print to the console a whole number – number of dancers that can fit in the free space of the room, **rounded to the nearest whole number down**.

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| **Login** | **Exit** | **Drawing** | **Explanations** |
| 50  25  2 | 1592 |  | Room size in square centimeters: (**50**\* 100) \* (**25**\* 100) = **12 500 000**;  Closet size: (**200**\* **200**) = **40000**;  Bench size: **12 500 000**/10 = **1 250 000**;  Free space = **12 500 000**– **40000** - **1 250 000** = **11210000**;  Number of dancers = **11210000** /(40 + 7000) = **1592**; |

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| **Login** | **Exit** | **Drawing** | **Explanations** |
| 70  20  4 | 1767 |  | Room size in square centimeters: (**70**\* 100) \* (**20**\* 100) = **1** **4 000 000**;  Closet size: (**400**\* **400**) = **160000**;  Bench size: **1** **4 000 000**/ 10 = **1 400 000**;  Free space = **1 4 000 000**– **160000**– **1 400 000**=  **12 440 000**;  Number of dancers = **12 440 000**/ (40 + 7000) = **1767**; |