

The Egyptian Pyramid: A Marvel of Engineering

The Egyptian pyramid is a marvel of engineering and architecture that has captured the imagination of people for centuries. These monumental structures were built around 4,500 years ago in ancient Egypt's Old Kingdom period. One of the fascinating aspects of the pyramids is how the enormous limestone blocks were placed on top of each other to form the iconic shape. Each block was carefully cut and fitted into place with remarkable accuracy, and what is even more impressive is the fact that there was virtually no space between the blocks. This means that the pressure exerted by each block on the one below it is immense, yet they have stood the test of time and remain standing today. The sheer scale of the pyramids and the precision with which they were built is a testament to the skill and ingenuity of the ancient Egyptians.

In this task, you will develop a program that prints pressures on the blocks of an Egyptian pyramid, with 8 digits after the comma, by implementing a recursive function. Implementations that include iterative approaches won't get any grade. Your program should read the inputs from standard input and print the results to standard output. Your program should satisfy the following requirements:

- The input format should be as follows:
 - The first line should contain two space-separated non-negative integers, N and W , representing the number of layers and the weight of each block, respectively.
 - $3 \leq N \leq 50$ and $10 \leq W \leq 100,000$ inequalities will hold.
- The output format should be as follows:
 - The program should print N lines, one for each block, in ascending order of the levels and left-to-right order.
 - Each line should contain the block coordinate and its pressure.
 - Pressures will be displayed with 8 decimal points.
- Each block is represented with a coordinate of (x, y) where x is the layer's number begins with 0 starting from the top and y is the position of the block in the row where the leftmost block is counted as $(x, 0)$ as shown in Figure 1.
- Every block transfers half of its weight to the lower left and lower right blocks. Also, every block transfers 15
- An example of the pyramid is given in Figure 2.

- The recursive functions must not include any loop or global, static variables.
- Input-Output example: You will implement a main function that gets the inputs from stdin and prints to stdout and recursive functions that calculate the pressure on cells.

Input:

5 100

Output:

```
(0,0) 0.00000000
(1,0) 50.00000000
(1,1) 50.00000000
(2,0) 57.50000000
(2,1) 115.00000000
(2,2) 57.50000000
(3,0) 58.62500000
(3,1) 125.87500000
(3,2) 125.87500000
(3,3) 58.62500000
(4,0) 58.79375000
(4,1) 127.67500000
(4,2) 137.76250000
(4,3) 127.67500000
(4,4) 58.79375000
```

Now, do the same thing for this text.