1   Peter the craftsman

Peter, the gold coin maker, wants to make N gold coins. Although he is a very good craftsman, he wastes some gold in the processing of making gold coins. From wastage of P gold coins, he can make new gold coin.

Given the number of gold coins (N) that Peter wants to make and wastage of gold coins (P) that can be used to make a new gold coin, find out the number of gold coins Peter must make initially, so that he can make the target N gold coins.

Input/Output

Input	Output	Comments
11 2	**6**	- First line 11 2 11 – represents the target gold coins (**N**) 2 – represents the waste gold coins to make a gold coin (**P**) - Peter initially makes **6** gold coins. From the waste pieces, Peter makes **3** new coins with waster pieces left over. - From the waste pieces of the new coins, Peter makes **1** new coin and have waste pieces left from one coin. - From the new coin, Peter gets more waste pieces. He adds the pieces and gets one (**1**) last coin. After making that, There are not enough waste pieces left to make a new coin. So a total of **11** coins are made.

2   Scott's Land Hunt

Scott had decided to do agriculture and was looking to purchase land. He was approached by a real estate agent with map of a region that has both fertile and barren pieces of lands. In the map, the fertile land is represented as **1** and barren land as **0**.

Scott wanted to purchase pieces of fertile lands that form a square with maximum dimensions possible.

Given, the dimensions of the region, a map of the region with 0's and 1's, write a program to find the dimension of the maximum square fertile land found in that region.

Input/Output

Input	Output	Comments

6 5
0 1 1 0 1
1 1 0 1 0
0 1 1 1 0
1 1 1 1 0
1 1 1 1 1
0 0 0 0 0
	3	• The first line 6 **5**
		   ○ **6 – Represents the total number of rows.**
		   ○ **5 – represents the total number of columns**
		• **There are three square matrices with all 1's**
		   ○ **2 x 2**
		   ○ **2 x 2**
		   ○ **3 x 3**
		• **Maximum size is 3 X 3, hence the answer is 3**

3   Athletes in a queue

There was sports competition in which athletes from different universities have participated in various events. The universities were given some arbitrary numeric codes. All the medalists of universities were asked to stand in a queue.

On seeing the queue of medalists, one of the organizers, approached you and said for each medalist standing in the queue, find the university code of nearest athlete to the right whose university has won more medals than that of the current athlete's university. If there does not exist any such athlete for a position, then print **-1**

Input	Output	
10 1 3 7 2 5 1 4 2 1 5	-1 2 2 1 1 -1 2 1 -1 -1	
Comments		

- First Line 10 represents the total number of athletes who won a medal.
- Second Line: **1 3 7 2 5 1 4 2 1 5**
  Represents the university codes of the medal winners.
- There are 3 medalists from University 1
- There are two medalists each from University 2 and 5
- There is one medalist each from University 3, 4, 5 and 7
- To the right of athlete at the 1st in the queue **(1)**, there is no athlete from a university that has won more medals than the University of Athlete at the current position.
- On the right of athlete at the 2nd in the queue **(3)**, there is an athlete from university 2 that has won more medals than the University of Athlete at the current position
- On the right of athlete at the 3rd in the queue **(7)**, there is an athlete from university 2 that has won more medals than the University of Athlete at the current position
- :
- :
- On the right of athlete at the last position **(5)**, there are no athletes so it is -1.
- So, the output of the above input values is **-1 2 2 1 1 -1 2 1 -1 -1**