Problem 3 – Shmoogle Counter

You are the newest employee at Shmoogle – a startup that aims to overthrow the mighty Google. On the first day of work, your boss arrives and informs you that he has the brightest idea how to optimize the search algorithm to be ultra-giga-fast. Google will be finished once and for all.

You will be provided with the source code, each of its lines will be on a new line of input. Your only job is to find the unique **double** and **int** variables that are declared in the algorithm's code. Extract their names, and sort them **alphabetically**. Variables will **not** be declared with commas (int row, col, radius). If a variable with the **same name** is located in another scope, it counts as **unique.** There are **no comments** in the code until the last line. Variable types won't be placed in string literals and there are **no** runtime and compile time constants in the code.

The code follows **naming conventions** and compiles. The variable's keyword and name will **never** be on two lines.

Input

- The input is read from the console.
- You will be given lines of C# code, until the comment **//END_OF_CODE** is reached

Output

- On the first line print **Doubles: {extracted doubles}** or **None**
- On the second – **Ints: {extracted ints}** or **None**

Constraints

- The length of each line is no more than 100 characters.
- Variable names will be no more than 25 characters long and will contain **only** Latin letters.
- The count of lines is in range [5…250]
- Allowed working time for your program: 0.25s
- Allowed memory: 16MB

Examples

Input

using System;
 	
class MegaCode
{
  static void Main()
  {
  double **pointless**;
  int **end** = 5;
  for (int **index** = 0; index < end; index++)
  {
  Console.WriteLine("Pork you, Google!");
  }
  }
}
//END_OF_CODE

Output
Doubles: pointless Ints: end, index

Input

using System;
 	
class MegaCode
{
  private static void Main()
  {
  string output = "Sick my duck, Google";
  Console.WriteLine(output);
  }
}
//END_OF_CODE

Output
Doubles: None Ints: None

Input

```
using System;

class MegaCode
{
   static void Main()
   {
      double pointless = 2.0;
      int end = 5;
      for (int index = 0; index < end; index++)
      {
         Console.WriteLine("Pork you, Google!");
      }
      int useful = (int) pointless;
   }

   static void MegaOptimize(int megaInt)
   {
      double end = 8;
      for (int index = 0; index < (int)end; index++)
      {
         megaInt++;
      }
   }
}
//END_OF_CODE
```

Output

```
Doubles: end, pointless
Ints: end, index, index, megaInt, useful
```