Easy Change

locked

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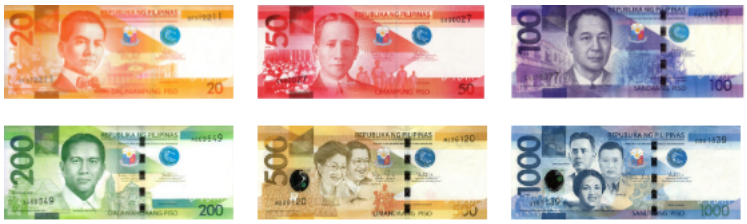
Problem Submissions Leaderboard Discussions Editorial

Shopkeepers often round up the change during a purchase so that the change to be given can be a single bill, making it convenient for both the shopkeeper and the customer.

For example, a customer has paid a 200 peso bill for a purchase of 104 pesos. If the customer then gives an additional 4 pesos, then the cashier will give an exact 100 peso bill in change, instead of several bills and coins if the change is 96 pesos.

They only typically ask for up to 9 pesos, since any more would be too inconvenient for the customer. Assume that the available bill denominations are: 20, 50, 100, 200, 500, 1000 pesos.



Peso Bill Denominations - 20, 50, 100, 200, 500 and 1000 pesos

Complete the function `howMuchToAsk` which takes the cost of purchase and the amount the customer has paid, in pesos, and returns the amount the cashier should ask the customer. If the change can already be represented as a single bill, then return 0. If this amount exceeds 9 pesos, then return -1 instead.

Input Format

The first line of input contains t, the number of scenarios. The following lines describe the scenarios.

Each scenario is described by a single line containing two space-separated integers, c and p, denoting the cost of purchase for that scenario and the amount the customer has paid, in pesos.

Constraints

- $1 \leq t \leq 50$
- $1 \leq c < p \leq 2000$

Output Format

For each scenario, print a single line containing a single integer denoting the amount the cashier should ask the customer. If the change can already be represented as a single bill, then print 0. If this amount exceeds 9, then print -1 instead.

Sample Input 0

```
3
104 200
370 420
20 50
```

Sample Output 0

```
4
0
-1
```

Explanation 0

In the first scenario, we have $c = 104$ and $p = 200$. This scenario corresponds to the example provided in the problem statement.

In the second scenario, we have $c = 370$ and $p = 420$. In this scenario, the required change is 50 pesos which can already be represented as a single bill. Hence, the answer is 0.

In the third scenario, $c = 20$ and $p = 50$. Here, the cashier has to ask for 10 pesos which exceeds 9 pesos, hence the answer is -1.

Submissions: 1565
Max Score: 10
Difficulty: Easy

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Current Buffer (saved locally, editable) C#

```
using System;
using System.Collections.Generic;
using System.IO;
using System.Linq;

class Solution {

    /*
     * Complete the howMuchToAsk function below.
     */
    static int howMuchToAsk(int c, int p) {
        /*
         * Return the amount the cashier should ask the customer or -1 if this exceeds 9.
         */

    }

    static void Main(string[] args) {
        TextWriter tw = new StreamWriter(@System.Environment.GetEnvironmentVariable("OUTPUT_PATH"), true);

        int t = Convert.ToInt32(Console.ReadLine());

        for (int tItr = 0; tItr < t; tItr++) {
            string[] cp = Console.ReadLine().Split(' ');

            int c = Convert.ToInt32(cp[0]);

            int p = Convert.ToInt32(cp[1]);

            int result = howMuchToAsk(c, p);

            tw.WriteLine(result);
        }

        tw.Flush();
        tw.Close();
    }
}

```

Line: 1 Col: 1

Upload Code as File Test against custom input Run Code Submit Code