

# ICS 4U0 PROGRAMMING PROBLEM: MORONICA CHANGE CALCULATOR

## Description of Problem

The strange planet Moronica has a strange system of currency. It is summarized in the following table:

<i><b>Bills</b></i>	<i><b>Coins</b></i>
There is only one bill called the “ <i><b>lurch.</b></i> ”	The coins come in five denominations: <b>1. Blot:</b> 100 blots = 1 lurch <b>2. Splat:</b> 1 splat = 3 blots <b>3. Glob:</b> 1 glob = 11 blots <b>4. Chunk:</b> 1 chunk = 22 blots <b>5. Blurp:</b> 1 blurp = 47 blots

Write a program that calculates and displays the smallest number of Moronican coins that equals a given amount of money in blots. The following table shows example inputs and outputs:

<i><b>Input</b></i> <i><b>(Amount of Money</b></i> <i><b>in Blots)</b></i>	<i><b>Output</b></i>
77	1 blurp, 1 chunk, 0 globs, 2 splats, 1 blot
34	0 blurps, 1 chunk, 1 glob, 0 splats, 1 blot
99	2 blurps, 0 chunks, 0 globs, 1 splat, 2 blots
57	1 blurp, 0 chunks, 0 globs, 3 splats, 1 blot
13	0 blurps, 0 chunks, 1 glob, 0 splats, 2 blots

See the next page for hints on how to approach a problem like this.

# Morenica Change Calculator

## Approach

- Work out examples using pencil & paper
- examples should guide you as you try to develop an algorithm
- once you have an algorithm, you can worry about implementation details  
↳ to put into practice

e.g. Input is 99 blots.

$$\begin{array}{r} 2 \\ 47 \overline{) 99} \\ \underline{94} \\ 5 \end{array}$$

5 blots

$$\begin{array}{r} 0 \\ 22 \overline{) 5} \\ \underline{0} \\ 5 \end{array}$$

$$\begin{array}{r} 0 \\ 11 \overline{) 5} \\ \underline{0} \\ 5 \end{array}$$

$$\begin{array}{r} 1 \\ 3 \overline{) 5} \\ \underline{3} \\ 2 \end{array}$$

<u>Blurps</u>	<u>Chunks</u>	<u>Globs</u>	<u>Splats</u>	<u>Blots</u>
2	0	0	1	2

## C# Implementation

- quotient → /  
(make sure that dividend and divisor are both integers)
- remainder → %