

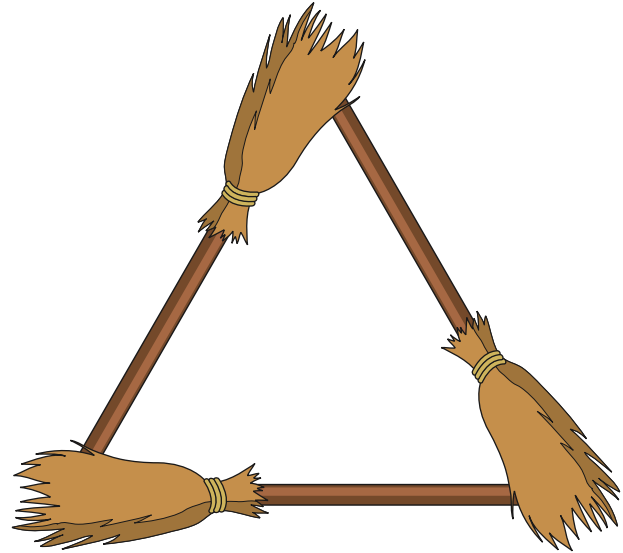


Overview

A short distance from **Hogwarts School of Witchcraft and Wizardry** sits a small town called Hogsmeade. This town is a common destination of students, faculty, and tourists from all over the World. Normally, first-year students, like yourself, are banned from visiting Hogsmeade.

However, you have decided to visit it anyway. What's the use of a school rule if no one plans to break it? Naturally, as a rather gifted Ravenclaw student, you were able to cast an impressive Disillusionment Charm on yourself – rendering yourself invisible to even your own eyes. Who needs an invisibility cloak? Ha!

So, you sneak behind some fourth-year Hufflepuffs and eavesdrop on their conversation as they walk by a disgruntled looking Mr. Filch. The taller of the students – a girl with curly brown hair – comments first. "I'm going to Honeydukes first. I'm not quite sure if I'm gonna get Fizzing Whizzbees or maybe some Drooble's Best Blowing Gum."



"Gracie, get both!", the shortest of the group laughs. Just don't get any those nasty Ever Flavor Beans. Gotta poop flavored one, I did."

"Oh. no... you... didn't... Paul!", a medium sized boy with red hair laughs.

"Oh, yes I did!". There was a note of defiance in Pauls' voice.

"Noooo. They wouldn't do that! You're nuts.", the red haired boy retorts. "You probably ate a dung bomb from Zonko's Joke Shop."

Paul shakes his head in disgust.

"It wasn't no dung bomb! I know! Trust me. Remember when that Reginold idiot in Slytherin ate one? On a dare? Remember? It came out his nose. He spent a week in the Hospital Wing."

Grace cuts in. "That explains a lot. He still smells a bit like one. Well, perhaps, that just might be how he normally smells. Oh well, I guess they aren't joke'n with 'every flavor'. I'll stick with the sweets."

As the group walks on, you pass the dingy and forlorn looking Hog's Head Inn bar, you take your chance and run into the most popular destination for food and conversation: The Three Broomsticks. Once there, you lift the Disillusionment Charm and sit next to your impressed, and someone jealous, classmates.

The Ravenclaw Prefect, Joe Gunchy, shakes a reproving finger at you, but ruins the effect slightly by smiling broadly. "Okay, you cheeky git. I won't report you. Buuuuuuuuuut, you are going to have to help us split the bill... when it comes, that is. Now, drink a well-deserved butter-beer and.... " He wryly presses his finger to his lips indicating not to tell anyone.

Sample Run

The user's input is printed in **blue**. The data outputted from your calculations is printed in **red**.

How much, in knuts, was the bill?

1500

How many people are splitting the bill?

6

Okay, witches and wizards, give 250 knuts each.

A simple divide. ...or is it?

Input Validation

There is a problem that can occur in your program. What happens in the user enters zero for the number of people splitting the bill? Yes, you divide by zero!

While this might not be an issue in the Magical World, it causes a great deal of problems for muggles! So, you need to create an **input validation loop**. Your program will not proceed until the user enters a positive integer.

How much, in knuts, was the bill?

1500

How many people are splitting the bill?

0

How many people are splitting the bill?

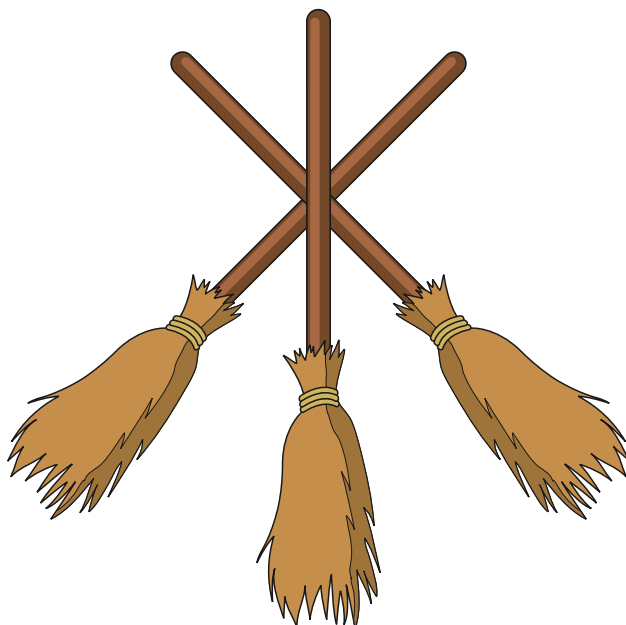
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How many people are splitting the bill?

6

Okay, witches and wizards, give 250 knuts each.

There is a Do Loop here that prevents the user from continuing.



Hints

- Don't worry about the loop until last.
- Work on each of the requirements below one at a time. You will turn in the final program, but incremental design is best for labs.

Requirements

You must think of a solution on your own. **You can come up with your own theme.** You don't have to use mine. The requirements are as follows:

1. Prompt and input the bill (in knuts or the lowest denomination of the currency you are using).
2. Prompt Input the number of guests.
3. Write an input validation loop to prevent the user from enter < 1 guests.
4. Output the split, for each guest, to the screen with some nice text.

Submitting Your Lab



This activity may only be submitted in Intel Format.

Using AT&T format will result in a zero. Any work from a prior semester will receive a zero.

To submit your lab, you must run Alpine by typing the following and, then, enter your username and password.

```
alpine
```

To submit your lab, send the assembly file (do not send the a.out or the object file to:

```
dcook@csus.edu
```



UNIX Commands

Editing

Action	Command	Notes
Edit File	<code>nano filename</code>	"Nano" is an easy to use text editor.
E-Mail	<code>alpine</code>	"Alpine" is text-based e-mail application. You will e-mail your assignments it.
Assemble File	<code>as -o object source</code>	Don't mix up the <i>objectfile</i> and <i>asmfile</i> fields. It will destroy your program!
Link File	<code>ld -o exe object(s)</code>	Link and create an executable file from one (or more) object files

Folder Navigation

Action	Command	Description
Change current folder	<code>cd foldername</code>	"Changes Directory"
Go to parent folder	<code>cd ..</code>	Think of it as the "back button".
Show current folder	<code>pwd</code>	Gives the current a file path
List files	<code>ls</code>	Lists the files in current directory.

File Organization

Action	Command	Description
Create folder	<code>mkdir foldername</code>	Folders are called directories in UNIX.
Copy file	<code>cp oldfile newfile</code>	Make a copy of an existing file
Move file	<code>mv filename foldername</code>	Moves a file to a destination folder
Rename file	<code>mv oldname newname</code>	Note: same command as "move".
Delete file	<code>rm filename</code>	Remove (delete) a file. There is no undo.