

Chapter 4 interaction: Argument between a Post-it note and a computer notebook

Post-it note: We post-it notes are a great tool for humanity. Face it, they just can't live without us! They put us in places where they will see us, and that way they don't forget anything they have to do! If it weren't for us, they'd forget everything.

Computer notebook: Well, we computer notebooks also remind people of what they have to do, but we are much more efficient! We use collection objects to keep track of all the notes.

Post-it note: What on earth are collection objects?

Computer notebook: They are objects that can store an arbitrary number of other objects. In other words, we can store a number of notes, and people can add or delete them as they please. We number the notes 0, 1, 2, 3, etc. so we can keep track of them a lot more easily, and when one note is deleted, new numbers are assigned to the existing notes so they are still in order: 0, 1, 2, 3, etc.

Post-it note: So what? We are stored in more accessible places, like the bathroom mirror or on a desk, where people will see them! Also, we don't need a complex program that will display each note. I mean, how does your program know how many notes to display? If you have six notes and you add one more, do you need to rewrite the program so that it will display notes 0-6 instead of 0-5? Do you have to tell it to display a note seven times? That would be a lot of typing.

Computer notebook: No, we use loops! They are used to execute a block of statements repeatedly without having to write them ten thousand times. The way it works is that while a condition is met, the program will do whatever is in the loop, and as soon as that condition is no longer true, the program will stop performing that action. So, as long as there is at least one more note to be printed, we will show the next note. It's very simple!

Post-it note: It sounds complicated to me. All humans have to do with us is jot down a quick note and stick it on the bathroom mirror! Then they can see it anytime they're washing their hands or brushing their teeth.

Computer notebook: But what if you fall on the floor or fall in the sink and get wet, and all the ink runs on you so humans can't read you anymore? We can store notes somewhere more permanent. We can also use an iterator!

Post-it note: What???

Computer notebook: It's an object that provides functionality to iterate over all elements of a collection. Humans use the iterator method of the ArrayList class to obtain an iterator object. They use that iterator to keep checking whether there are any more objects, and to get the next object. The iterator is asked to return the next item, and not the whole collection.

Post-it notes: The bathroom mirror can store as many post-its that will fit on it! And besides, you don't have to limit yourself to the mirror: You can put as many post-its up as you want, wherever you want to put them!

Computer notebook: Well, we can use arrays too. An array is a special type of collection that can store a fixed number of elements. It's an organized way of keeping track of them. Oh, and another thing we use is for loops. We use them when we want to

execute some statements a fixed number of times, and when we need a variable inside the loop whose value changes by a fixed amount on each iteration.

Post-it notes: I think humans should just keep things simple and use us! Computers can crash, and then their life is ruined! But we will always be there for them.

Computer notebook: Well, at least I will never become TRASH!!!

(Post-it notes run away, insulted and upset.)