>> Now let's look at several more examples of reading input. Recall the Scanner class, which is part of java.util, needs to be imported. This would be the first line in your program. Then in the main method we created an instance Scanner and then we have access to its methods.

One of the methods is nextLine and it reads all of the input until the end of line is reached and then returns a single string. Let's look at an example of how that works. In this program, we, we create a scanner called scan on, on the keyboard System.in.

And then we print out enter line of text and then we read the entire line end with scan.nextLine and then we're gonna print it out. So, let's run this in debug mode and we'll step through. So we created the scanner called scan, now we print out enter a line of text.

And now we need to enter that line. Now I've entered this as an example of using the scanner. And then I hit the Return key. And now this next read is gonna read the entire line of, of what I entered. And then we print it all out and you see it out there, added quotes around it.

And if you open a viewer online, you see the entire line got read in. And that is about as simple as it is there. We just use the, next line method to get them into our line. When we do that then always comes in as a string. So let's end this Now another method is the next method.

It reads the next token from the scanner and returns it as a string. We've used nextInt, which returned an int, but this just returns the next token as a string. And what we mean by token, the, information being read is delimited by something and, and the default delimiter is white space.

That includes spaces, tabs, new lines, return characters. The delimiter can be changed. We can delimit the data by commas, for examples. Comma delimited data is actually pretty popular, but the default is, is white space. So in addition to the nextLine and next which returns string value, the Scanner class also has methods that return individual types like nextInt and nextDouble.

So they read a token and and then convert it to the type indicated by the method name. There are others nextBoolean, nextChar, and, and so on. So let's look at an example that uses those. In this case we're going to well, we've declared int number of persons and double cost and meal and total.

So we're gonna read down the number in a group, we scan that in as an int. We have whole persons and then we're going to enter the cost per person. We'll scan that in as a double using nextDouble. And then we'll calculate total, number of persons times cost of meal and print that out.

So let's run that out in, in the debugger. We'll step through it. Just created the scanner class, and now we're entering the number in the group. And let's say we've got, 25 in the group. Now it says enter cost per person, and let's say it's gonna cost $25.50.

We'll give ourselves a fraction there. Then we calculate the total and print the total, OK? And that's, that's all there is to that. Again we read in an int with scanInt, nextInt rather. And then we read in a double with scan.nextDouble. OK, next let's look at scanning in a string.

And when I mean that, we're not coming in from the keyboard, we're gonna actually create a string and, and scan the string. Take it apart, so to speak. So we can create a scanner object on a string, any string for that matter. And then break it into tokens.

Suppose we wanna separate a phrase into words and then print each word on a, on a separate line. We could create a scanner. Say, Scanner scan=new Scanner, and instead of opening the scanner on, a system.In for the keyboard, we can just give it a string. And in this case, this is a test.

And, and then we can just print out scan.next, and that's gonna pull off this. And the next scan.next we'd get is and so on. So let's take a look at that. So a simple program here. Notice we've created a scanner on this is a test. That string and then we're going to just have four scan.next().

And each scan.next() is gonna pull off a word there and, and we'll print that out. And believe I've got a canvas for this, let's open that. So we get that out of the way, there a little bit OK, so we create the scanner. There it is, it's empty the first read actually forces it to get populated so, there's our first read.

And notice, the position in the scanner just pass this so would actually pulled off this. And, and we printed this. There's this down there in the Run I/O tab and, the next time we step it's gonna pick up is. We'll see the position in the scanner move. So it just pulled off is and printed is and then there's a and then finally, we'll, we'll pull of test and we end.

So that's an example of, of how we can take any string that we want to take apart let's say, and, create a scanner on that screen, on that string. And then each scan.next would, would pull off a token. In this case delimited by spaces.