Input Using Scanner

I think most of you would agree that any computer program that does not allow the user to enter information would be pretty useless. Input doesn’t just refer to numbers; it could be gamepad inputs in a video game, or you pushing on the touchscreen on your phone.

In Java, there are many ways to obtain user input. Although the AP test does not contain any questions on retrieving input from the user, as there is no “standard”, we need a way to do so. For this, we will use the Scanner object, which allows us to take information from the user and ultimately store it in a variable.

To use Scanner, we must import some extra Java libraries (think of a library as extra pieces of code that help you do things so that you don’t have to reinvent the wheel every time you want to do it – such as reading from the user!).

The following line of code should go at the top of your program, directly above your class statement.

```
import java.util.Scanner;
```

Once you do this you will be able to instantiate (create) a Scanner object, and then tell that object to do something. Within your main method you need to type the following to create the object:

```
Scanner sc = new Scanner(System.in);
```

Looking at the above statement, you are creating a Scanner object called sc (you can call it any legal name in Java) and telling it to read from the system’s input device (note the System.in contained with the parenthesis). The system’s input device is….. the keyboard! This Scanner object called sc will now be able to read information from the user’s keyboard.

There are some methods (AKA functionalities) of the Scanner object. The ones you will use the most are:

```
nextInt();
nextLine();
nextDouble();
```

They will let you read an integer, a String, and a decimal value, respectively.
So, if I wanted to read a user’s age, I would first prompt them and then read from the keyboard and store it in a variable:

```java
System.out.print(“Please enter your age: “);
int age = sc.nextInt();
```

I could then print out the value of their age:

```java
System.out.println(“You are “ + age + “ years old.”);
```

Notice the + sign above. It is called the concatenation character and joins multiple String together. In this case, it would print You are and then print whatever age they entered and you stored in the age variable, and then finally years old.

Here is a video tutorial that will show you a good example of the use of Scanner:

https://www.youtube.com/watch?v=RhtBOOOGGd8