Computer Programming

Unit 2 WS02 Scanner Input

What is a program if it does not have the ability to interact with the user? The Scanner Object is one way to get input from the user. While the AP Computer Science A exam does not specifically test on the Scanner Object, it is important to understand how user input can be gathered and used. Please note that the AP exam will generally use one of the following styles of notation to simply state that user input is collected:

int userNumber = call to a method that reads the user's integer input;

double m = IO.readDouble( ); // read user input

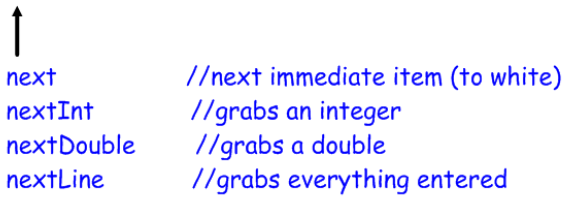
With this knowledge in mind, we still need to know how to collect user input so that we can write programs that are beneficial in this course. Be sure to read and following the remaining information in this document and to complete the exercises at the end.

REQUIRED IMPORT STATEMENT:

```
Package whateverPackageNameYouHaveChosen;
import java.util.*;                    //Notice this is directly after your package name.
                                       //NOT after public static void main …
```

EXAMPLE: Suppose we wish to create a new scanner. We need to remember to include the appropriate import statement and the appropriate syntax to create the scanner. We also should remember that we can name the Scanner object anything we want as long as we stay within the standard naming conventions. The code below is an example, with some added notes.

```
import java.util.*;
...
Scanner scanCrazy = new Scanner(System.in);
scanCrazy._______( );
```




```
int a = scanCrazy.nextInt( );
double b = scanCrazy.nextDouble( );
String c = scanCrazy.next( );
String d = scanCrazy.nextLine( );
```

We need to remember the limitations of each of the next options. If we use nextInt( ) and the user enters a decimal, we get an error. If we use nextDouble( ) and the user enters an integer, it will be converted to a double. Also, remember to store the user input in a variable if it is going to be used later in the class.

Exercises

1) Create a class called ***myFirstCalculator***. Initialize two integer variables to equal two integers that the user inputs (be sure to ask the user to input two integers, one at a time). Once getting the user input, display 4 math problems with the correct solutions: the two numbers added, subtracted, multiplied, and divided. Be aware that the division problem needs to be able to handle decimal answers.

2) Create a class called **happyBirthday**. Initialize <u>one</u> String variable to equal the user's entered name. Initialize <u>three</u> integer variables to equal the users month, day, and year of birth. Then display:

   Happy Birthday to ***/*User's Name*/*** on: ***/*User's Birthday formatted as ##/##/#### */***