

Java Homework

Due:

Description: Investment calculator

Your task is to write a java program that produces information about a financial investment.

Inputs to the program

The interest rate (expressed as a percentage), the initial principal(in \$) and the number of years.

Outputs of the program

A table whose outputs include;
the year number, the principal at the beginning of the year, the interest earned, the principal at the end of the year.

Data Validation

$0 \leq \text{interest rate} \leq 200$, $0 \leq \text{initial investment} \leq 10,000$, $0 < \text{number of years} \leq 40$

PROVIDE AN ERROR MESSAGE IF THE ANY OF THE INPUTS IS OUT OF RANGE!!!

See below for example or run example from mr Hanley's web site

Please enter the starting investment:(0-10000)

Please enter value:->

100

Please enter the rate (0-200)%

Please enter value:->

10

Please enter the number of years

Please enter value:->

20

NOTE: I round off all values to nearest dollar after each calculation

NOTE: How do I make the columns line up?

As long as they don't differ by too much, use a `\t` between each column

```
System.out.println("Year\tStart\tEarned\tEnd");
```

And later on...

```
System.out.println(i+"\t"+start+...);
```

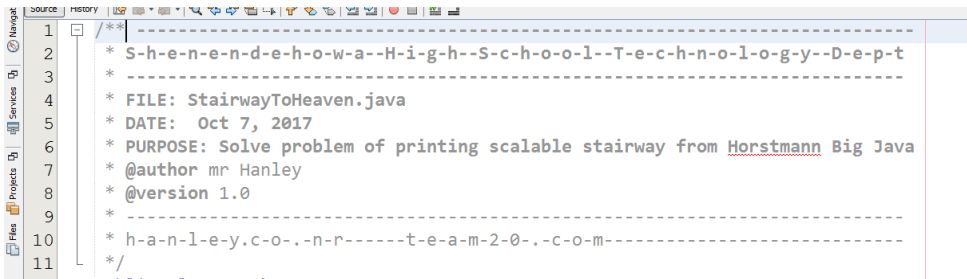
If the numbers differ a lot, see `System.out.format` for EXACT field widths for variables, not necessary in this course, we do use this in AP Computer Science)

```
-----  
$$$INVESTMENT CALCULATOR$$$|
```

```
-----  
Year      Start      Earned      End  
----      -  
1          100.0      10.0        110.0  
2          110.0      11.0        121.0  
3          121.0      12.0        133.0  
4          133.0      13.0        146.0  
5          146.0      15.0        161.0  
6          161.0      16.0        177.0  
7          177.0      18.0        195.0  
8          195.0      20.0        215.0  
9          215.0      22.0        237.0  
10         237.0      24.0        261.0  
11         261.0      26.0        287.0  
12         287.0      29.0        316.0  
13         316.0      32.0        348.0  
14         348.0      35.0        383.0  
15         383.0      38.0        421.0  
16         421.0      42.0        463.0  
17         463.0      46.0        509.0  
18         509.0      51.0        560.0  
19         560.0      56.0        616.0  
20         616.0      62.0        678.0
```

How to print your Loop HW from NB

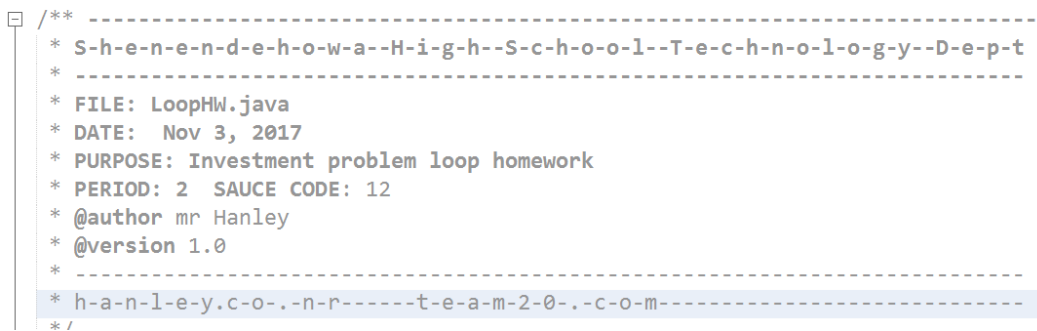
1. Make sure your file header is present at the top of NB



```
1  /** -----  
2  * S-h-e-n-e-n-d-e-h-o-w-a--H-i-g-h--S-c-h-o-o-l--T-e-c-h-n-o-l-o-g-y--D-e-p-t  
3  * -----  
4  * FILE: StairwayToHeaven.java  
5  * DATE: Oct 7, 2017  
6  * PURPOSE: Solve problem of printing scalable stairway from Horstmann Big Java  
7  * @author mr Hanley  
8  * @version 1.0  
9  * -----  
10 * h-a-n-l-e-y.c-o-.n-r-----t-e-a-m-2-0-.c-o-m-----  
11 */
```

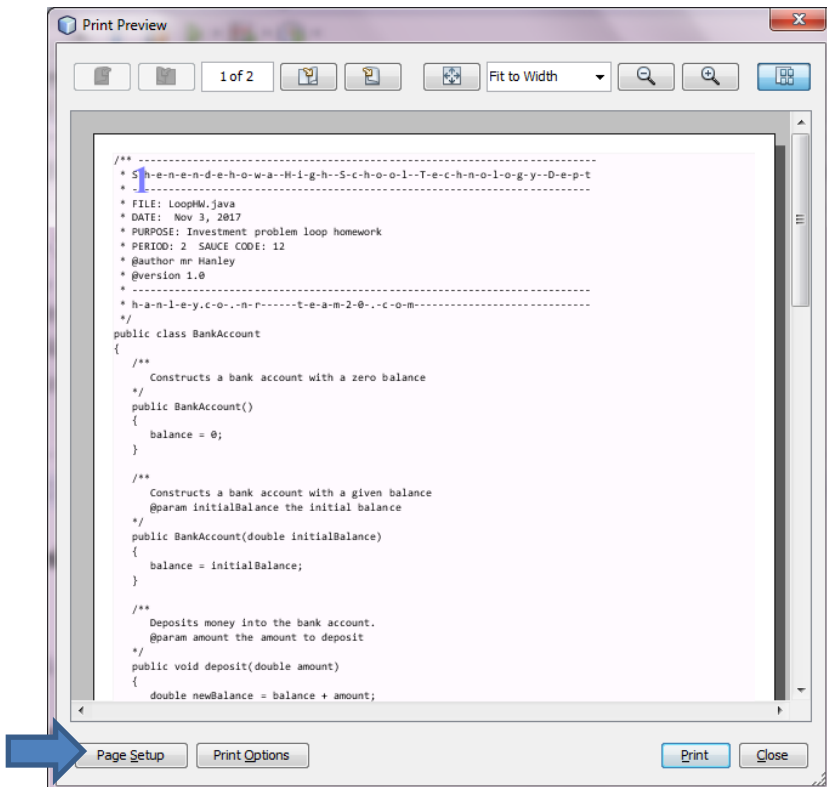
2. Get rid of extra “bling bling” that takes up a lot of space(we’re trying to reduce the number of pages printed and save the polar bears, ya know??)

3. Edit the Header TO MAKE SURE IT HAS **LOOP INVESTMENT HW** AND **YOUR PERIOD** AND **SAUCE CODE**

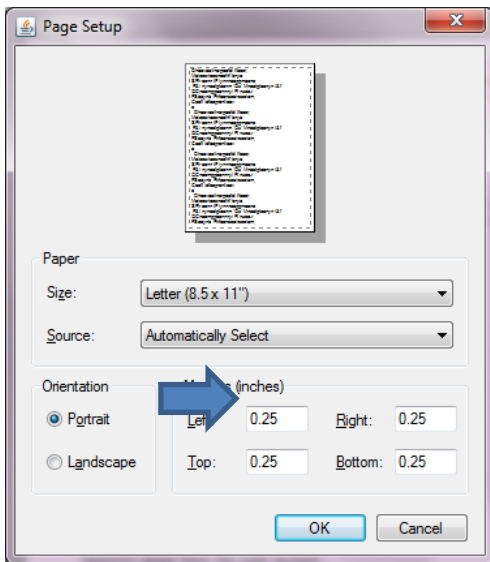


```
1  /** -----  
2  * S-h-e-n-e-n-d-e-h-o-w-a--H-i-g-h--S-c-h-o-o-l--T-e-c-h-n-o-l-o-g-y--D-e-p-t  
3  * -----  
4  * FILE: LoopHW.java  
5  * DATE: Nov 3, 2017  
6  * PURPOSE: Investment problem loop homework  
7  * PERIOD: 2 SAUCE CODE: 12  
8  * @author mr Hanley  
9  * @version 1.0  
10 * -----  
11 * h-a-n-l-e-y.c-o-.n-r-----t-e-a-m-2-0-.c-o-m-----  
12 */
```

4. Choose **File Print** and then Click on the **Page Setup Button**

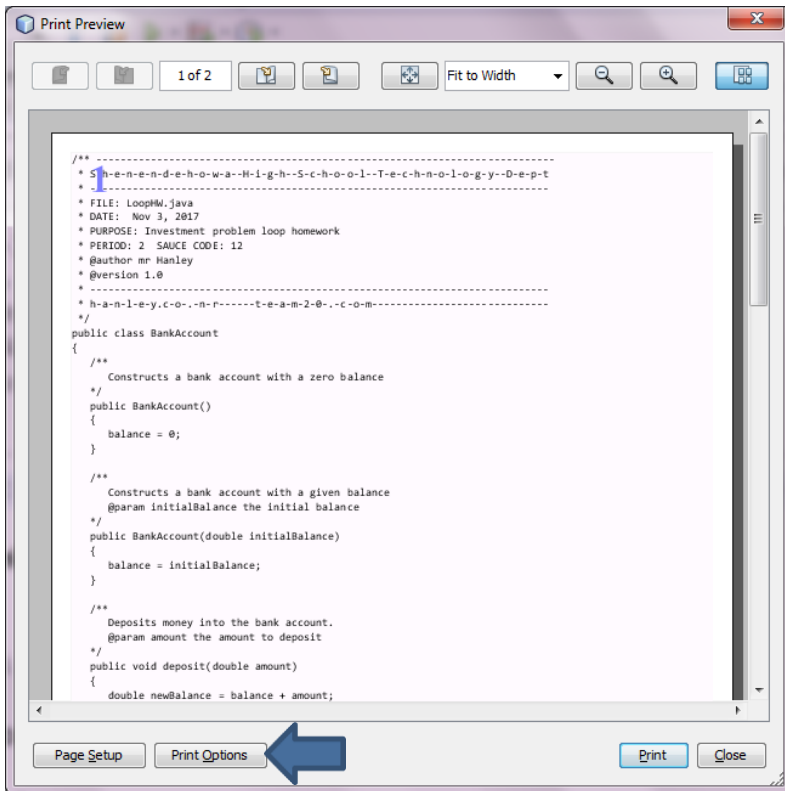


5. Set all Margins to .25

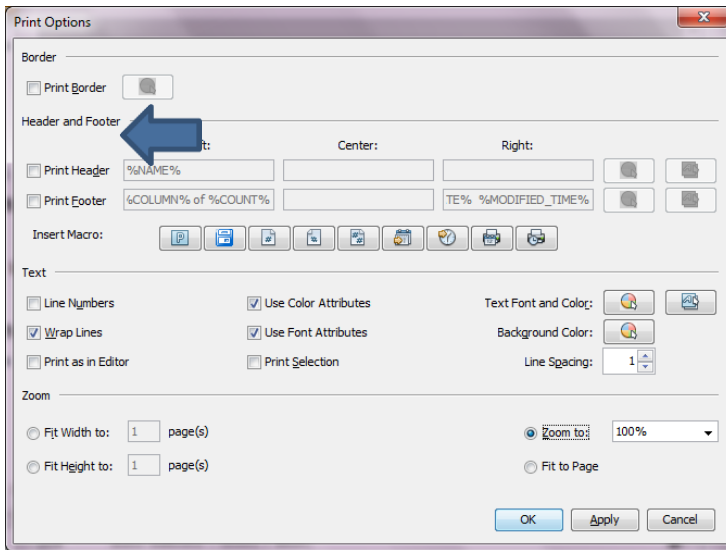


6. Choose OK

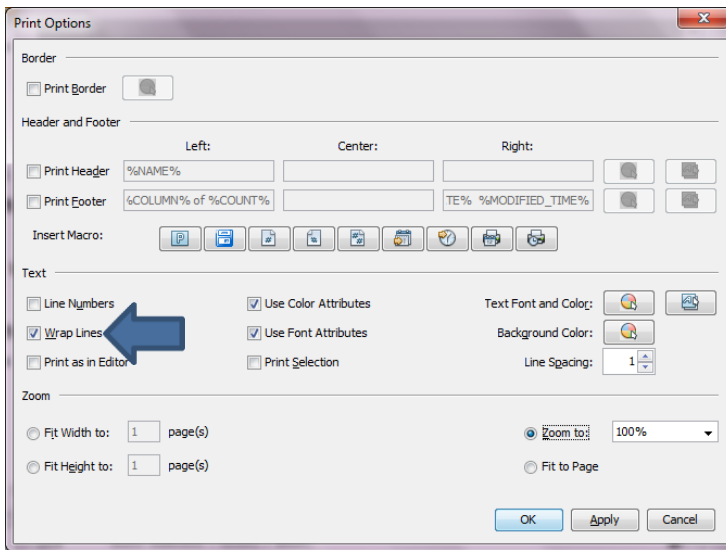
7. Choose **Print Options**



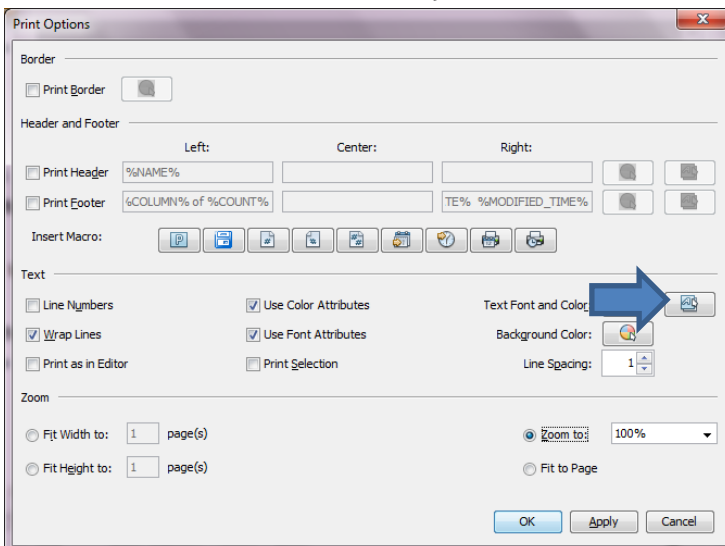
8. Uncheck page border, header and footer



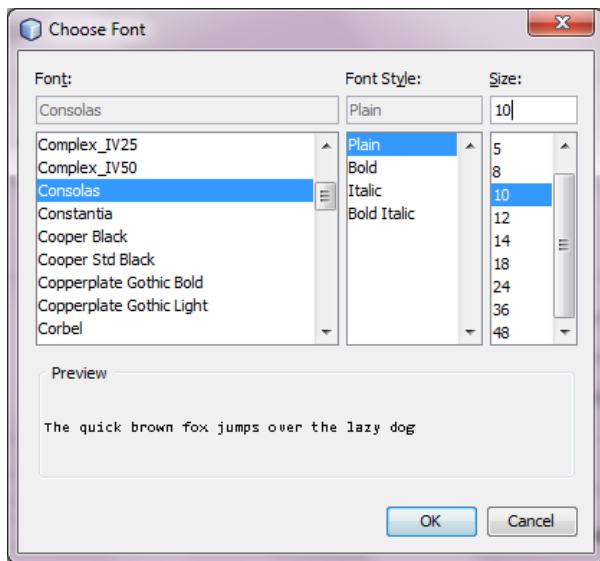
9. Check Wrap Lines



10. Now for the Font, click on the font selector



11. Choose **Consolas 10**

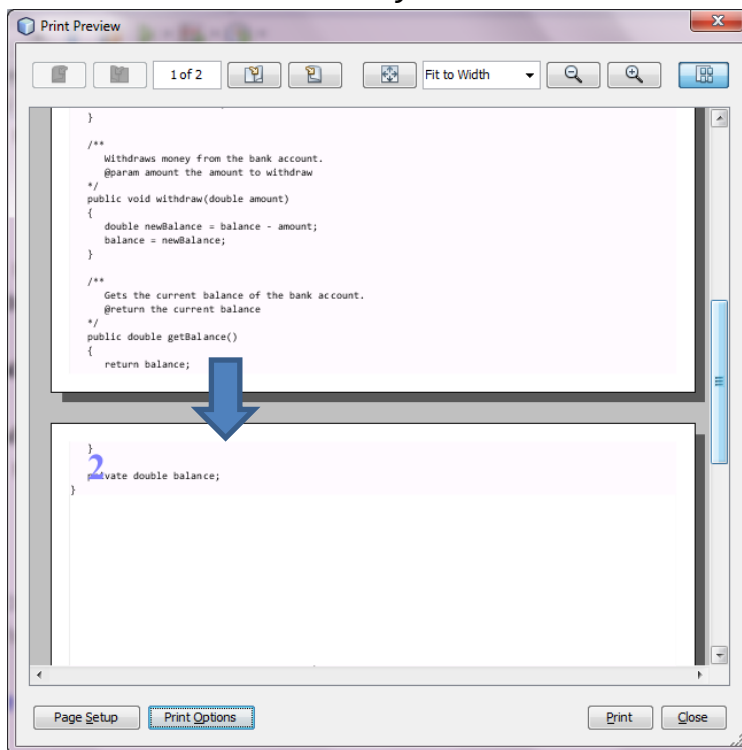


12. Choose OK and Look at the Preview

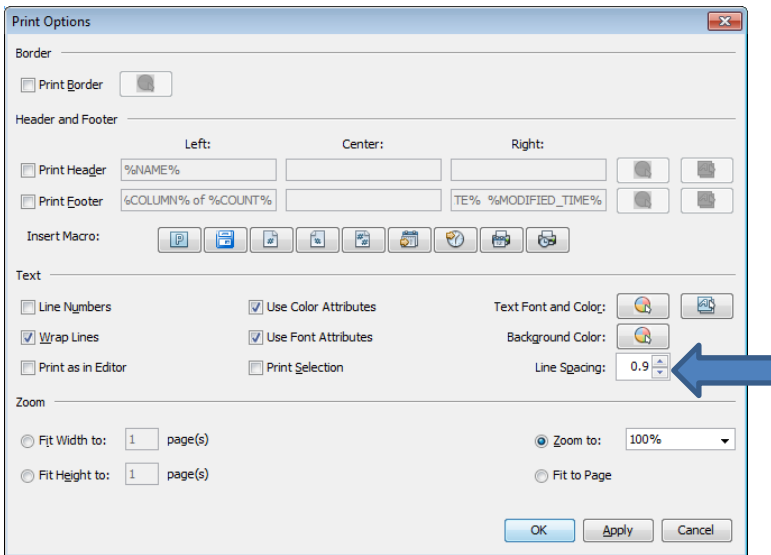
If it looks like it is fitting well into minimal pages, you can proceed

If not, we can do some tweaking to get it to fit

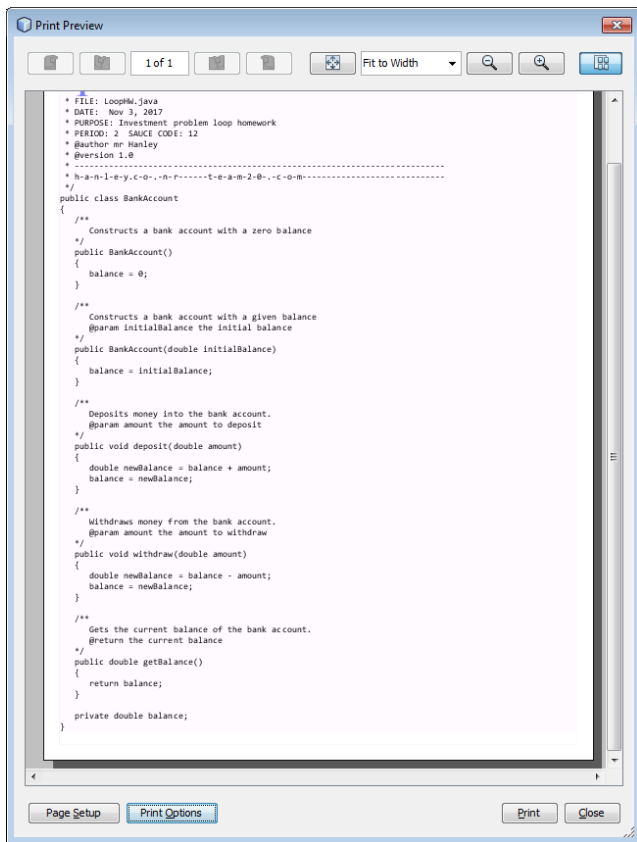
In the example below, I am going to kill extra trees which is bad for our \$ and our environment!!!!!! Yucky!



13. We can delete some lines but I will show you another trick!!
From the Print Options dialog, change the **Line Spacing** to .9 and see what happens with the preview



Wallah, mine fits on one page, if not, keep decreasing line spacing as LONG AS CODE is readable!!!!

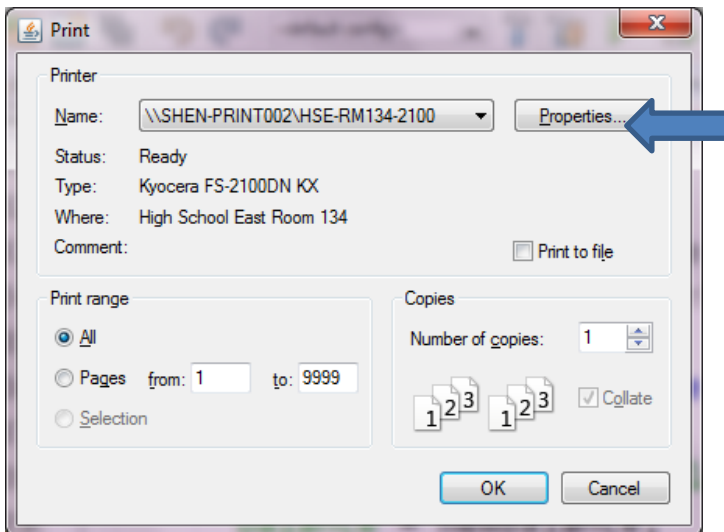


14. Choose the Print Button

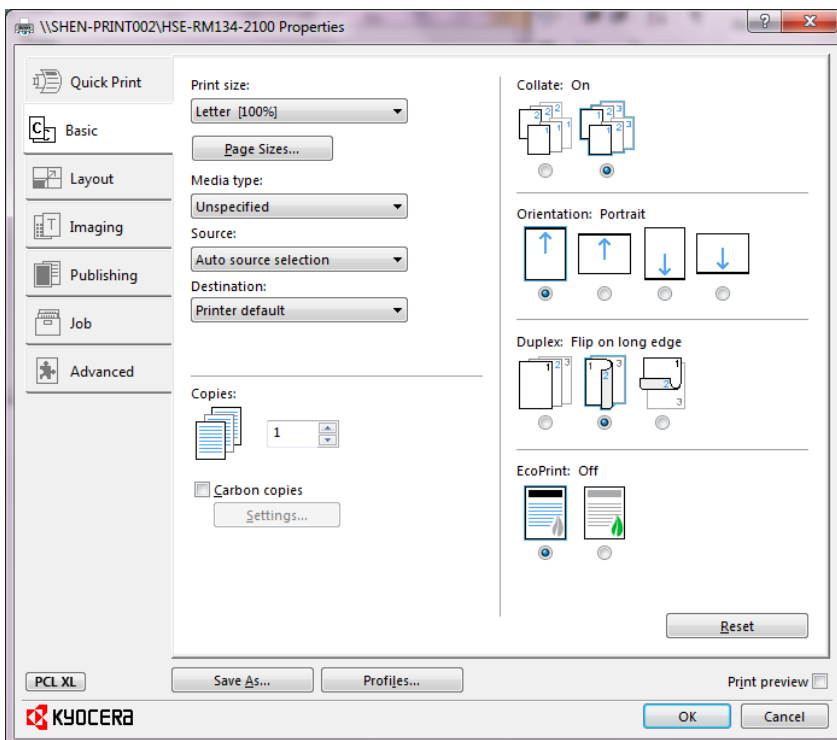
If you are in room 129, simply print one sided as that printer won't print back to back

If you are in room 134, Print Duplex as Follows;

15. Click on the **Properties** Button



16. Choose Duplex, **Flip on long edge**



17. This will come out 2 sided, put in paper holder in appropriate slot according to sauce code