There is a handout today -- please don't forget to make copies.

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Today's class will be two parts:

First you'll introduce what "trace tables" are.

Then the students will work on a handout.

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When we say "trace table", we mean a table where each variable is listed,

and you keep track of it's value as you trace through the execution of

the program one line at a time. For example, if the program starts out:

int a = 3, x = 7, y = 9;

then you would start with:

a x y

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3 7 9

As you trace through the code you update the table accordingly.

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I suggest doing the following example by having the code ready to go and

projecting from a computer onto the screen. Show the code (but don't

run it yet), and trace it by hand using a trace table.

Your goal is to emphasize the methodical approach needed

to make sure you are predicting the performance correctly.

At the end, run the program to see if you were right!

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Example: What does this program do?

(Show them how to use a trace table to see how it works -- use some

good value of n.)

public class Mystery {

public static void main(String[] args) {

Scanner s = new Scanner(System.in);

System.out.print("Enter a number: ");

int n = s.nextInt();

int x = 2;

while(x <= n) {

if (n % x == 0) {

System.out.println(x);

n = n/x;

x = 2;

}

else {

x = x + 1;

}

}

}

}

----------------------------------------------------------------

Have them work on the handout for the rest of class.

(we're not submitting or grading this one.)

As always, if they don't finish the handout during class,

encourage them to continue working on it at home.