Lesson 42: Craps Lab #2 (W12D3) Balboa High School

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1/24

Create class RandomInts in new project Lesson42.

```
public class RandomInts {
    public static void main(String[] args) {
        double a = Math.random();
        System.out.println(a);
    }
}
```

Enhance the main() so that it prints a random number on the screen exactly 17 times using a for() loop.

Students will receive a short lesson on random number generation for use with the *Craps Lab* and have time to work on $\S5$ of PS #6.

• Q: How does Math.random() appear to work?

¹Note the right parenthesis after 1.0 — that means the range is *not* inclusive of the value 1.0. So 0.99999999 is a possible return value. $\langle \Box \rangle \langle \Box \rangle \langle \Box \rangle \langle \Xi \rangle \langle \Xi \rangle$

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- \bullet A: Returns a double from [$0.0 \rightarrow 1.0$) $^{-1}$

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- ullet A: Returns a double from [$0.0 \rightarrow 1.0$) $^{-1}$
- The Math.random() API is here.
- Taming the beast: How might we get this method to return an integer between 1 and 8, for example?

Multiplication and casting!

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14 / 24

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```
(int)( 8 * Math.random()) + 1
gives {1,2,3,4,5,6,7,8}
```

- This method for getting Java to return random ints will be on the AP exam!
- Modify your Do Now class to produce random ints from 1 to 10, inclusive. If you get stuck, follow the sequence from the last slide. Also, think about how many <u>discrete values</u> you need.

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- Inside your for() loop, call nextInt():
 - a = r.nextInt(7);

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• See what the range of output values is and adjust that last line of code so that your range is from 1 to 8.

- The rest of the period is yours to work on PS #6
- I'll run the autotester later for the $\S4$ problems so you can find out whether your solutions are OK.

Finish $\S5$ of PS #6 and all prior sections.