

CS100M: Section Exercises for Oct. 25-26

1. The following code snippets illustrate how to use a for loop in Java. What should be the output?

```
//example 1
for(int x=3; x<5; x++)
{
    System.out.println(x);
}
```

```
//example 2
for(int x=1, y=2; x>=-2; x--)
{
    System.out.println(y);
}
```

```
//example 3
for(int x=0, y=4; x<=6 && y>=1; x+=2, y--)
{
    System.out.println(x+y);
}
```

2. Given an integer n , use a for-loop to print the first n Fibonacci numbers. Assume $n > 2$. Recall that $F_1 = F_2 = 1$ and $F_n = F_{n-1} + F_{n-2}$.

```
//your code should begin like this
int v1 = 1;
int v2 = 1;
```

3. Write a static method `mean` to return the arithmetic mean of randomly generated numbers. Method `mean` has one input parameter `U` and it randomly generates a sequence of numbers (type `int`) between 1 and `U`, inclusive, until the number `U` is encountered. Take the sum of these numbers (including the number `U` that stops the sequence) and find the arithmetic mean. You don't need arrays to do this, so don't use arrays. Use `Math.random()` to generate a random number in $[0,1)$.

4. Given an integer n , print the prime numbers between 2 and n . Assume $n > 1$.