

CS100M Section Exercise 9

1. What should be the output for each program fragment?

```
//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 integers. Method `mean` has one input parameter `U` and it randomly generates a sequence of numbers (type `int`) with equal probability 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. Write a static method `printPrimes` to print the prime numbers between 2 and input parameter `n`, inclusive. Assume $n \geq 2$.