The following is an example write-up for a simple output precision problem. Use this write-up as a guide for creating write-ups for your projects. Keep in mind that the complexity of write-ups will increase as projects become more complicated.

**Overview:**

For this project, we are to randomly generate a floating point number and output the number showing only the first one digit, two digits, and five digits of decimal precision respectively without using any `Math` class methods.

**Algorithm:**

First, consider showing the number with only the first five decimal digits. Without loss of generality, assume the randomly generated number is 3.141592653589793. Because the fifth digit of precision is the hundred-thousandths place, we can multiply the number by 100000 to give 314159.2653589793. If we cast the resulting floating point number to an integer, the portion after the decimal will be truncated giving 314159. Then if we divide the resulting integer by 100000, we should get the original floating point number showing only the first five decimal digits. However, we must make sure that the division expression is of floating point type; otherwise, integer division will give us an integer value of 3. This approach can be summarized by the following pseudocode.

```java
Random randomizer = new Random();

double aRandomNumber = randomizer.nextDouble();
double numberTimes100K = aRandomNumber * 100000;
int numberTimes100KTrunc = (int) numberTimes100K;
double numberToFivePlaces = (double) numberTimes100KTrunc / 100000.0;
```

This same approach is used to show the number with only the first one and two decimal digits using 10 and 100 respectively in place of 100000.