1. **(POGIL)** According to your results, does App Inventor's PRNG provide a good model of randomness?
2. **(POGIL)** A friend claims that flipping a coin 100 times and finding that it comes up heads only 45% of the time shows that the coin is biased. How should you reply?
3. Because we are using a coin flip app, this experiment really tests only that App Inventor's *random integer* block generates a 1 around half the time. Is this a sufficient test for App Inventor's PRNG? What other experiments might you do to increase your confidence in App Inventor’s PRNG?

**Portfolio Reflection Questions**

**Make a copy** of this document in your Portfolio Assignments folder and answer these questions in the spaces below. Once complete, turn in this assignment according to the steps given by your teacher.

[4.6 Coin Flip Experiment Curriculum Page](https://course.mobilecsp.org/mobilecsp/unit?unit=23&lesson=68)

Answer the following questions:

(**POGIL**) Record your team's results for each run in a neatly organized table. That is, if you did 20 runs of 100 coin flips each, your table should have 20 rows of results, with percentages for each row and totals at the bottom.

|  |  |  |
| --- | --- | --- |
|  **Run #** |  **Heads** |  **Tails** |
|  1 |   |   |
|  2 |   |   |
|  3 |   |   |
|  4 |   |   |
|  5 |   |   |
|  6 |   |   |
|  7 |   |   |
|  8 |   |   |
|  9 |   |   |
|  10 |   |   |
|  11 |   |   |
|  12 |   |   |
|  13 |   |   |
|  14 |   |   |
|  15 |   |   |
|  16 |   |   |
|  17 |   |   |
|  18 |   |   |
|  19 |   |   |
|  20 |   |   |
|  **Totals** |  |  |

1. (**POGIL**) According to your results, does App Inventor's PRNG provide a good model of randomness?

**Answer**

|  |
| --- |
|  |

2. (**POGIL**) A friend claims that flipping a coin 100 times and finding that it comes up heads only 45% of the time shows that the coin is biased. How should you reply?

**Answer**

|  |
| --- |
|  |

3. Because we are using a coin flip app, this experiment really tests only that App Inventor's *random integer* block generates a 1 around half the time. Is this a sufficient test for App Inventor's PRNG? What other experiments might you do to increase your confidence in App Inventor’s PRNG?

**Answer**

|  |
| --- |
|  |