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| **Using Code to Simulate Probability Experiments** | | | |
| Executes code that is provided and describes results  “When I click the green flag, the *Coin Toss* application tosses a coin and shows whether it is heads or tails. I can execute it many times to simulate lots of tosses.” | Reads and interprets code, predicting the output  A picture containing chart  Description automatically generated  “This application simulates tossing a coin by picking either 0 or 1 at random and shows whether heads or tails is tossed. If I execute it lots of times, I should get heads about half the time.” | Understands the use of subprograms and repeats in programs  “By adding the repeat to the *Coin Toss* application, it makes it much easier to use. Instead of pressing the green flag lots of times, I can just simulate many trials by changing the repeat number to a large number.” | Writes and debugs code to determine experimental probabilities  “Once the program has simulated tossing the coin 1000 times, I can use the results to calculate the experimental probability of tossing tails. I’ll create a variable called **tailsEP** and set it to be equal to the number of tails tossed divided by the total number of tosses. The code is: |
| **Observations/Documentation** | | | |
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