Output:

Which prisoner is executed when B gets pardoned?

A: 16754 / 50195.0: 0.3337782647674071

B: 0 / 50195.0: 0.0

C: 33441 / 50195.0: 0.6662217352325929

**import** java.util.Random;

**public** **class** SecondBayesHomework

{

**private** **static** **final** **int** *iterations* = 100000;

**private** **static** Random *random*;

**public** **static** **void** main(String[] args)

{

*random* = **new** Random();

**int** aCount = 0;

**int** bCount = 0;

**int** cCount = 0;

**double** bPardonCount = 0;

**for**(**int** i = 0; i < *iterations*; i++)

{

**char** executed = *getExecuted*();

**char** message = *getMessage*(executed);

**if**(message == 'B')

{

bPardonCount++;

**switch**(executed)

{

**case** 'A':

aCount++;

**break**;

**case** 'B':

bCount++;

**break**;

**case** 'C':

cCount++;

**break**;

}

}

}

System.*out*.println("Which prisoner is executed when B gets pardoned?");

System.*out*.println("A: " + aCount + " / " + bPardonCount + ": " + (aCount/bPardonCount));

System.*out*.println("B: " + bCount + " / " + bPardonCount + ": " + (bCount/bPardonCount));

System.*out*.println("C: " + cCount + " / " + bPardonCount + ": " + (cCount/bPardonCount));

}

**private** **static** **char** getMessage(**char** executed)

{

**switch**(executed)

{

**case** 'A':

**switch**(Math.*abs*(*random*.nextInt() % 2))

{

**case** 0: **return** 'B';

**case** 1: **return** 'C';

}

**case** 'B': **return** 'C';

**case** 'C': **return** 'B';

}

}

**private** **static** **char** getExecuted()

{

**switch**(Math.*abs*(*random*.nextInt() % 3))

{

**case** 0: **return** 'A';

**case** 1: **return** 'B';

**case** 2: **return** 'C';

}

}

}