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| 1. The simulation below counts the number of coin flips it takes to achieve a specified number of heads in a row. Once the number of heads is achieved, the simulations stops and prints the number of coin flips. Consider the following output for different conditions.  |  |  | | --- | --- | | **Specified heads** | **Output** | | int numHeads = 4; | 30 flips | | int numHeads = 12; | 10000 flips |   Complete the CountHeads class below. | |
| Public class CountHeads{    public static void main(String args[]){  }  } | |
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| 2. Write the following for-loops as while loops | | |
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| 3. What is the output for each code segment below, | | |
| (a)  int m = 0;  int j = 0;  do{  j \*= -1;  if(j >= 0){  m += 2;  }  j+=2;  }while(m < 4);  System.out.println(j); | (b)  int i = 5, j = 0;  do{  for(j = 0; j < i; j++){  System.out.print(“\*”);  }  System.out.println();  i--;  }while(i > 0); | |
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| 1. The Magic 8 Ball is a plastic sphere resembling an [8-ball](https://en.wikipedia.org/wiki/8-ball). Inside is a floating die with 20 faces. Each face has an affirmative, negative, or non-committal statement printed in raised letters. These messages are read through a window on the ball's bottom in response to a “yes” or “no” question. Finish the Magic8Ball class which simulates a Magic 8 Ball. You simulator needs to produce messages for the first 2 cases only. Once the message is displayed, prompt the user if they would like to play again. If the user types “y”, the simulation will continue to run. | |
| Public class CountHeads{    public static void main(String args[]){  }  } | |
|  | /6 |