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import java.util.Random;

/**************************************************************************
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 * Block: G
 *
 * Program 2: Pseudo-Blackjack
 * Description:
 *      This program plays pseudo-blackjack 10 times and then
displays:
 * total wins, average points per game, and average cards per game.
 * It does account for Jacks, Queens, and Kings as individual cards
 * with value 10.  It will also give aces the value 1 or 11,
 * depending on which is better for the player, and will display
 * the corrected value of the ace.
 *
 *************************************************************************/
public class PseudoBlackjackActualPt2Extra
{
        static Random gen = new Random();
        public static void main(String[] args)
        {
                final int AMOUNT_CARDS = 13;      //Number of
possible card values to choose
                int numWins = 0;                            //Running
total of game wins
                int numGames;                                       //
Number of games played
                double numPoints = 0;                       //Running
total of points acquired in games
                double totalCards = 0;                      //Running
total of cards drawn

                for (numGames = 0; numGames < 10; numGames++)
                {
                        int cardTotal = 0;                          //
Running total of card values in a game
                        int numCards = 0;                           //
Number of cards drawn in a game
                        int[] cardNum = new int[5];       //Array of
card values in a game

                        System.out.println("Game " + (numGames + 1) +
":");

                        //This while loop adds cards until the
winning or losing condition
                        while (cardTotal < 17 && numCards < 4)
                        {
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                                numCards++;

                                cardNum[numCards] =
gen.nextInt(AMOUNT_CARDS) + 1;


                                //Correcting face cards to ten and
aces to starting value of 11
                                if (cardNum[numCards] >= 10)
                                {
                                        cardNum[numCards] = 10;
                                }
                                else if (cardNum[numCards] == 1)
                                {
                                        cardNum[numCards] = 11;
                                }

                                cardTotal = cardTotal +
cardNum[numCards];

                                //Changes ace value to 1 if
beneficial
                                if (cardTotal > 21)
                                {
                                        if (cardNum[1] == 11)
                                        {
                                                cardNum[1] = 1;
                                                cardTotal =
cardTotal - 10;
                                                if (numCards != 1)
                                                {

System.out.println("Card 1 is actually 1");
                                                }
                                        }
                                        else if (cardNum[2] == 11)
                                        {
                                                cardNum[2] = 1;
                                                cardTotal =
cardTotal - 10;
                                                if (numCards != 2)
                                                {

System.out.println("Card 2 is actually 1");
                                                }
                                        }
                                        else if (cardNum[3] == 11)
                                        {
                                                cardNum[3] = 1;
                                                cardTotal =
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cardTotal - 10;
                                                        if (numCards != 3)
                                                        {

System.out.println("Card 3 is actually 1");
                                                        }
                                                }
                                                else if (cardNum[4] == 11)
                                                {
                                                        cardNum[4] = 1;
                                                        cardTotal =
cardTotal - 10;
                                                        if (numCards != 4)
                                                        {

System.out.println("Card 4 is actually: 1");
                                                        }
                                                }
                                        }

                                        //Prints single card value
                                        System.out.println("Card " +
numCards + " is: " + cardNum[numCards]);
                                }

                                //Prints single game point total
                                System.out.println("Total is: " + cardTotal);

                                //Checks for winning or losing conditions and
prints
                                if (cardTotal == 21 && numCards == 2)
                                {
                                        System.out.println("Blackjack!!!
\nGame Won.");
                                        System.out.println();
                                        numWins++;
                                }
                                else if (cardTotal >= 17 && cardTotal <= 21
||
                                                (numCards == 4 && cardTotal
< 17))
                                {
                                        System.out.println("Game won.");
                                        System.out.println();
                                        numWins++;
                                }
                                else
                                {
                                        System.out.println("Bust.");
                                        System.out.println();
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                        }

                        numPoints = numPoints + cardTotal;
                        totalCards = totalCards + numCards;
                }

                double avePoints = numPoints / numGames;  //Average
points per game
                double aveCards = totalCards / numGames;  //Average
cards drawn

                //Print data and parameters for the set of games
                System.out.println("Number of wins: " + numWins);
                System.out.println("Average points per game: " +
avePoints);
                System.out.println("Average cards per game: " +
aveCards);
        }
}
```