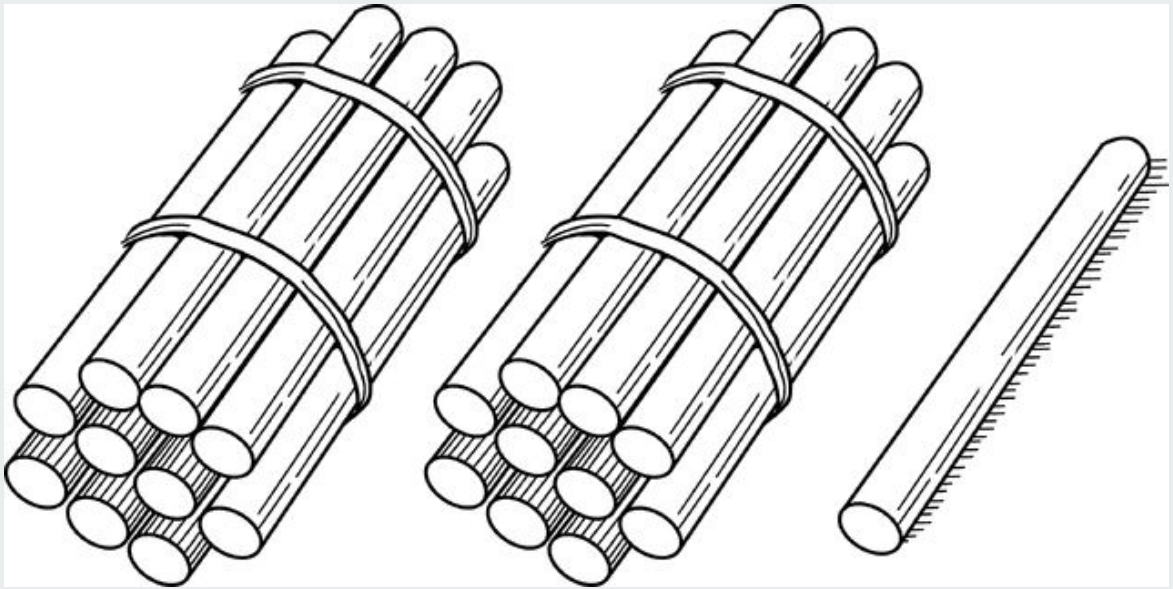
21 Sticks

Built by Kevin x Lucas



History

-Ancient card game of the gambling family, first recorded in Spain in the early 17th century, that has developed into several regional variants still popular today, including the casino games of Blackjack and Pontoon

Overview: How to play/Instructions

- 21 Sticks in total (2 players)
- Each player either takes 1 or 2 sticks per turn
- Player who picks the last stick loses

Inputs

```
public static void main(String[] args){
  //Declaring Variables

  //Keeps Track of Sticks
  int numSticks = 21;

  //Number of sticks player wants to take
  int numToTake;

  //input asks player if they'd like to go first.
  //Take takes number of sticks(1 or 2) player
  //wants to take
  Scanner input = new Scanner(System.in);
  Scanner take = new Scanner(System.in);

  //Asks player if they want to go first
  System.out.println("Would you like to go first? (Y/N)");
  String goFirst = input.nextLine();

  //Keeps game running until no
  //sticks are left in the virtual pile
```

Checking

```
while(numSticks > 0){

  //Checks player respone for going first
  if(goFirst.equals ("y") || goFirst.equals ("Y") ){
    //Tells player how many sticks are left
    System.out.println("There are "+numSticks+" sticks left.");
    //Asks for input
    System.out.println("How many sticks do you want to take? (1 or 2)");
    //Takes input and takes from total amount
    numToTake = take.nextInt();
    //Makes sure players can't take nums
    //other than 1 or 2
    if(numToTake >= 2){
      numToTake = 2;
    }
    else if(numToTake<= 1){
      numToTake = 1;
    }
    numSticks -= numToTake;
    if(numToTake == 1){
      System.out.println("You take 1 stick.");
    }
    else{
      System.out.println("You take "+numToTake+" sticks.");
    }
    System.out.println("There are "+numSticks+" sticks left.");
    System.out.println();
    //This if statement will check to see if
    //the player took the last stick. If so, he loses.
    //If not, the game continues!
```

```
    if(numSticks <= 0){
      System.out.println("You lose!");
    }
    else{
  //Computer plays if game is not over

    //This is the computer logic
    if( (numSticks-2) % 3 == 0 || numSticks-2 == 0){
      numToTake = 1;
    }
    else{
      numToTake = 2;
    }

    if(numToTake == 1){
      System.out.println("Computer takes 1 stick.");
    }
    else{
     System.out.println("Computer takes "+numToTake+" sticks.");
    }

    numSticks = numSticks - numToTake;
    System.out.println();


    }//end of lose-check if-else

  }//Closes the if statement checking if player said "Y" or "y"
```

Computer Logic

```
else{

  //This is the computer logic
  if( (numSticks-2) % 3 == 0 || numSticks-2 == 0){
    numToTake = 1;
    System.out.println("Computer takes 1 stick.");
    numSticks--;
    System.out.println("There are "+numSticks+" sticks left.");
    System.out.println();
  }
  else{
    numToTake =2;

   System.out.println("Computer takes "+numToTake+" sticks.");
   numSticks -= numToTake;
   System.out.println("There are "+numSticks+" sticks left.");
   System.out.println();
  }

  System.out.println("There are "+numSticks+" sticks left.");
 //Asks for input
 System.out.println("How many sticks do you want to take? (1 or 2)");
 //Takes input and takes from total amount
 numToTake = take.nextInt();
 //Makes sure players can't take nums
 //other than 1 or 2
```

User Output

```
            if(numToTake >= 2){
              numToTake = 2;
            }
            else if(numToTake<= 1){
              numToTake = 1;
            }
            numSticks -= numToTake;
            if(numToTake == 1){
              System.out.println("You take 1 stick.");
            }
            else{
              System.out.println("You take "+numToTake+" sticks.");
            }
            System.out.println("There are "+numSticks+" sticks left.");
            System.out.println();
            //This if statement will check to see if
            //the player took the last stick. If so, he loses.
            //If not, the game continues!
            if(numSticks <= 0){
              System.out.println("You lose!");
            }

          }//End of else saying player said "no" or something else


        }//This bracket is the end of the while loop

      }//This bracket is the end of the main method


    }//This bracket is the end of the Main class
```

Features I’m Proud of :)

- It works
- Separate elements
- Simple, Fun to play

Challenges & Obstacles

- Being a slow programmer (Motivation/Drive)

  - **Collaboration -** Our dynamic team had diverse skill sets that we strategically streamlined for each role

- Understanding how to piece together multiple parts for it to work

  - **Bugs -** We ran into numerous bugs

- Using a ton of if/else and while loops

  - **Nested Code**: Readability was slightly difficult with for loops and if statements nested inside an existing while loop.

Possible Future Enhancements/Additions

- Add another option if individual wants to play another person in real life
- Better and more interactive interface
- Improve graphics
- Adding Replay Feature

Thanks for listening!