import kotlin.random.Random

class Die(

    var type: String = "d6",

    var numSides: Int = 6,

    var currentSideUp: Int = 1

) {

    init {

        roll()

    }

    fun roll() {

        currentSideUp = Random.nextInt(1, numSides + 1)

    }

    override fun toString(): String {

        return "$type ($numSides sides): $currentSideUp"

    }

}

class DiceGame {

    fun run() {

        // Create different sized dice using each constructor

        val die1 = Die()

        val die2 = Die("d12", 12) // Pass "d12" as a string instead of 12

        val die3 = Die("d20", 20)

        // Roll the dice and display their results (before and after)

        println("Initial dice values:")

        println(die1)

        println(die2)

        println(die3)

        die1.roll()

        die2.roll()

        die3.roll()

        println("\nDice values after rolling:")

        println(die1)

        println(die2)

        println(die3)

        // Choose one Die object and set it to show its highest value

        die1.currentSideUp = die1.numSides

        println("\nDie 1 after setting it to show the highest value:")

        println(die1)

        // Create 5 six-sided dice. Roll each Die in a loop until you get 5 of a kind. Count and display the number of rolls.

        val fiveOfAKind = 5

        val targetValue = 6

        val dice = Array(fiveOfAKind) { Die() }

        var rolls = 0

        do {

            rolls++

            dice.forEach { it.roll() }

        } while (dice.any { it.currentSideUp != targetValue })

        println("\nNumber of rolls to get $fiveOfAKind $targetValue's: $rolls")

    }

}

fun main() {

    val game = DiceGame()

    game.run()

}

**OUTPUT:**

