Tidemark – Java Interview Programming Assignment

Write a Java program that simulates the drinking game “7-11-Doubles”

The program should accept input and print output to the console. On start up, it should print the following help text:

*This program simulates the 7-11-Doubles drinking game.*

*The object of the game is to make other players drink their favorite beverage. Each player takes turns rolling a pair of dice. A winning roll of the dice occurs if the total of the dice is 7 or 11, or the dice show doubles (1-1, 2-2, etc.) When the current player rolls a winning combination, they choose some other player to drink their beverage and the current player gets to roll again. Any other combination is a losing roll and the current player's turn is over and the dice are passed to the next player. If the current player rolls a losing combination and any other player has not finished drinking, the current player ignores the losing roll and rolls again. Winning rolls are treated as above. It is possible for more than one other player to be drinking at the same time. In this simulation, the game can begin after two players have joined. The game ends when only one player is left. A player will leave the game after being made to drink a specified number of drinks. If the player has drinks remaining, they must finish them, but should not be assigned any more drinks.*

*Commands:*

*HELP Print these instructions*

*ADD [player name] [drinking time] Adds named player.*

*Drinking time is time to finish 1 drink*

*SPEED [seconds] Number of seconds between rolls.*

*Default 2.*

*MAX [drinks] Number of drinks before player*

*drops out. Default 5.*

*START Start the simulation*

Additional Requirements (beyond those described in help text):

* All players are added before starting the game
* Once at least two players have joined, the game can begin
* The simulation should continue until there is only one player left.
* Dice rolling and drinker selection should be random (or pseudo-random).
* The length of time between drinks can optionally be set prior to starting the game. Default is two seconds if not set.
* The number of drinks a player will drink before declaring they’ve had enough can optionally be set prior to starting the game. Default is 5 if not set.
* The length of time to finish a drink is specified per player when they join the game.
* Invalid input should be handled gracefully.
* Status should be printed each time the dice are passed to a new player and each time a player is made to drink.
* Commands are not case sensitive
* Players names should be unique

Example output (user input is in blue):

This program simulates the 7-11-Doubles drinking game.

The object of the game is to make other players drink their favorite beverage. Each player takes turns rolling a pair of dice. A winning roll of the dice occurs if the total of the dice is 7 or 11, or the dice show doubles (1-1, 2-2, etc.) When the current player rolls a winning combination, they choose some other player to drink their beverage and the current player gets to roll again. Any other combination is a losing roll and the current player's turn is over and the dice are passed to the next player. If the current player rolls a losing combination and any other player is has not finished drinking, the current player ignores the losing roll and rolls again. Winning rolls are treated as above. It is possible for more than one other player to be drinking at the same time. In this simulation, the game can begin after two players have joined. The game ends when only one player is left. A player will leave the game after being made to drink a specified number of drinks. If the player has drinks remaining, they must finish them, but should not be assigned any more drinks.

Commands:

HELP Print these instruction

ADD [player name] [drinking time] Adds named player.

Drinking time is time to finish 1 drink

SPEED [seconds] Number of seconds between rolls.

Default 2.

MAX [drinks] Number of drinks before player.

drops out. Default 5.

START Start the simulation

Waiting for players...

> start

At least 2 players required to start game

> add alex

Incorrect number of arguments for 'ADD'

> ADD Alex 3

Alex, who can finish a drink in 3 seconds, has joined the game.

> start

At least 2 players required to start game

> max 4

Maximum number of drinks is 4

> speed 2

Pause time between rolls is 2 seconds

> add Bob 4

Bob, who can finish a drink in 4 seconds, has joined the game.

> add Chris 5

Chris, who can finish a drink in 5 seconds, has joined the game.

> start

>

==== STATUS ====

There are 3 players.

It is Alex's turn.

Alex has had 0 drinks

Bob has had 0 drinks

Chris has had 0 drinks

Alex's turn

Alex rolled double 1's

Alex says: 'Bob, drink!'

==== STATUS ====

There are 3 players.

It is Alex's turn.

Alex has had 0 drinks

Bob has had 0 drinks and is currently drinking 1 more

Chris has had 0 drinks

Alex rolled a 8

Bob is done drinking

==== STATUS ====

Alex rolled a 9

There are 3 players.

It is Alex's turn.

Alex has had 0 drinks

Bob has had 1 drinks

Chris has had 0 drinks

==== STATUS ====

There are 3 players.

It is Bob's turn.

Bob has had 1 drinks

Chris has had 0 drinks

Alex has had 0 drinks

Bob's turn

Bob rolled a 9

==== STATUS ====

There are 3 players.

It is Chris's turn.

Chris has had 0 drinks

Alex has had 0 drinks

Bob has had 1 drinks

Chris's turn

Chris rolled a 6

==== STATUS ====

There are 3 players.

It is Alex's turn.

Alex has had 0 drinks

Bob has had 1 drinks

Chris has had 0 drinks

Alex's turn

Alex rolled a 6

==== STATUS ====

There are 3 players.

It is Bob's turn.

Bob has had 1 drinks

Chris has had 0 drinks

Alex has had 0 drinks

Bob's turn

Bob rolled a 9

==== STATUS ====

There are 3 players.

It is Chris's turn.

Chris has had 0 drinks

Alex has had 0 drinks

Bob has had 1 drinks

Chris's turn

Chris rolled double 1's

Chris says: 'Alex, drink!'

==== STATUS ====

There are 3 players.

It is Chris's turn.

Chris has had 0 drinks

Alex has had 0 drinks and is currently drinking 1 more

Bob has had 1 drinks

Chris rolled a 6

Alex is done drinking

==== STATUS ====

There are 3 players.

It is Chris's turn.

Chris has had 0 drinks

Alex has had 1 drinks

Bob has had 1 drinks

Chris rolled a 8

==== STATUS ====

There are 3 players.

It is Alex's turn.

Alex has had 1 drinks

Bob has had 1 drinks

Chris has had 0 drinks

Alex's turn

Alex rolled a 10

==== STATUS ====

There are 3 players.

It is Bob's turn.

Bob has had 1 drinks

Chris has had 0 drinks

Alex has had 1 drinks

Bob's turn

Bob rolled a 7

Bob says: 'Chris, drink!'

==== STATUS ====

There are 3 players.

It is Bob's turn.

Bob has had 1 drinks

Chris has had 0 drinks and is currently drinking 1 more

Alex has had 1 drinks

Bob rolled a 11

Bob says: 'Alex, drink!'

==== STATUS ====

There are 3 players.

It is Bob's turn.

Bob has had 1 drinks

Chris has had 0 drinks and is currently drinking 1 more

Alex has had 1 drinks and is currently drinking 1 more

Bob rolled a 5

Chris is done drinking

==== STATUS ====

There are 3 players.

It is Bob's turn.

Bob has had 1 drinks

Chris has had 1 drinks

Alex has had 1 drinks

Alex is done drinking

==== STATUS ====

There are 3 players.

It is Bob's turn.

Bob has had 1 drinks

Chris has had 1 drinks

Alex has had 2 drinks

Bob rolled a 4

==== STATUS ====

There are 3 players.

It is Chris's turn.

Chris has had 1 drinks

Alex has had 2 drinks

Bob has had 1 drinks

Chris's turn

Chris rolled a 3

==== STATUS ====

There are 3 players.

It is Alex's turn.

Alex has had 2 drinks

Bob has had 1 drinks

Chris has had 1 drinks

Alex's turn

Alex rolled double 6's

Alex says: 'Chris, drink!'

==== STATUS ====

There are 3 players.

It is Alex's turn.

Alex has had 2 drinks

Bob has had 1 drinks

Chris has had 1 drinks and is currently drinking 1 more

Alex rolled double 3's

Alex says: 'Chris, drink!'

==== STATUS ====

There are 3 players.

It is Alex's turn.

Alex has had 2 drinks

Bob has had 1 drinks

Chris has had 1 drinks and is currently drinking 2 more

Alex rolled a 6

Chris finished 1 drink, but still has 1 drink(s) to finish

==== STATUS ====

There are 3 players.

It is Alex's turn.

Alex has had 2 drinks

Bob has had 1 drinks

Chris has had 2 drinks and is currently drinking 1 more

Alex rolled double 6's

Alex says: 'Chris, drink!'

==== STATUS ====

There are 3 players.

It is Alex's turn.

Alex has had 2 drinks

Bob has had 1 drinks

Chris has had 2 drinks and is currently drinking 2 more

Chris finished 1 drink, but still has 1 drink(s) to finish

==== STATUS ====

There are 3 players.

It is Alex's turn.

Alex has had 2 drinks

Bob has had 1 drinks

Chris has had 3 drinks and is currently drinking 1 more

Alex rolled a 6

Alex rolled a 8

Chris is done drinking

Chris says: 'I've had too many. I need to stop.'

==== STATUS ====

There are 2 players.

It is Alex's turn.

Alex has had 2 drinks

Bob has had 1 drinks

Alex rolled a 7

Alex says: 'Bob, drink!'

==== STATUS ====

There are 2 players.

It is Alex's turn.

Alex has had 2 drinks

Bob has had 1 drinks and is currently drinking 1 more

Alex rolled a 5

Bob is done drinking

==== STATUS ====

There are 2 players.

It is Alex's turn.

Alex has had 2 drinks

Bob has had 2 drinks

Alex rolled a 7

Alex says: 'Bob, drink!'

==== STATUS ====

There are 2 players.

It is Alex's turn.

Alex has had 2 drinks

Bob has had 2 drinks and is currently drinking 1 more

Alex rolled a 3

Bob is done drinking

==== STATUS ====

There are 2 players.

It is Alex's turn.

Alex has had 2 drinks

Bob has had 3 drinks

Alex rolled a 5

==== STATUS ====

There are 2 players.

It is Bob's turn.

Bob has had 3 drinks

Alex has had 2 drinks

Bob's turn

Bob rolled a 8

==== STATUS ====

There are 2 players.

It is Alex's turn.

Alex has had 2 drinks

Bob has had 3 drinks

Alex's turn

Alex rolled a 9

==== STATUS ====

There are 2 players.

It is Bob's turn.

Bob has had 3 drinks

Alex has had 2 drinks

Bob's turn

Bob rolled a 8

==== STATUS ====

There are 2 players.

It is Alex's turn.

Alex has had 2 drinks

Bob has had 3 drinks

Alex's turn

Alex rolled a 11

Alex says: 'Bob, drink!'

==== STATUS ====

There are 2 players.

It is Alex's turn.

Alex has had 2 drinks

Bob has had 3 drinks and is currently drinking 1 more

Alex rolled a 9

Alex rolled a 10

Bob is done drinking

Bob says: 'I've had too many. I need to stop.'

==== STATUS ====

The game is over. Alex is the winner.

Alex is the winner!