

# 10,000 Dice

Problem: Implement the game 10,000 Dice as well a tutor to help teach and demonstrate the rules and strategies of the turn-based dice game. We will also create AI for the game.

Project requirements: Python, Tkinter, minimax algorithm

Budget requirements (if any): \$0 (Open Source)

Feasibility of finishing the product: Majority of the code will be made in Python with Tkinter for the GUI.

Timeline: Each member do their part once a week (sometimes, each member can help one another on their part if needed)

Week (1-2): Create the startup screen of the game with Tkinter.

Week (3-4): Work on gameplay and the results on who's the winner

Week (5-6): In progress of creating the ai with python.

Week (7-8): Make any last minute adjustments and bring all of the work together

Team members and roles: John Tu (Report Writing, Instructions, and Pseudocode), Mauricio Macias (GUI, AI), Reeder Loveland (Game Design)

Rules for scoring (see below):

1- 100 points

5- 50 points

Three of a kind of 1 - 1000 points

Three of a kind of 2 - 200 points

Three of a kind of 3 - 300 points

Three of a kind of 4 - 400 points

Three of a kind of 5 - 500 points

Three of a kind of 6 - 600 points

For each number over three of a kind you double the amount (example 3 2's =200, 4 2's =400, 5 2's =800, 6 2's=1,600).

Pairs and Straights: When a player rolls 1,2,3,4,5,6 when rolling all 6 dice this is a Straight.

When a player gets 3 sets of pairs when rolling 6 dice this is Pairs. Pairs and Straights are worth 500 points.

Note: Three of a kind must all be rolled together. Rolling a 1 and then rolling another 1 and another 1 is 300. Rolling 3 1's at a time is 1000.

Gameplay: All players start off the Scoreboard. To get onto the Scoreboard a player must roll at least 1000 points in a single turn.

Each turn, players start with 6 dice and roll them all. From there, players may choose their scoring dice from any points shown on the board. After their choice, they may choose to roll the remaining dice OR keep their points(provided they are on the board or the points are above 1000).

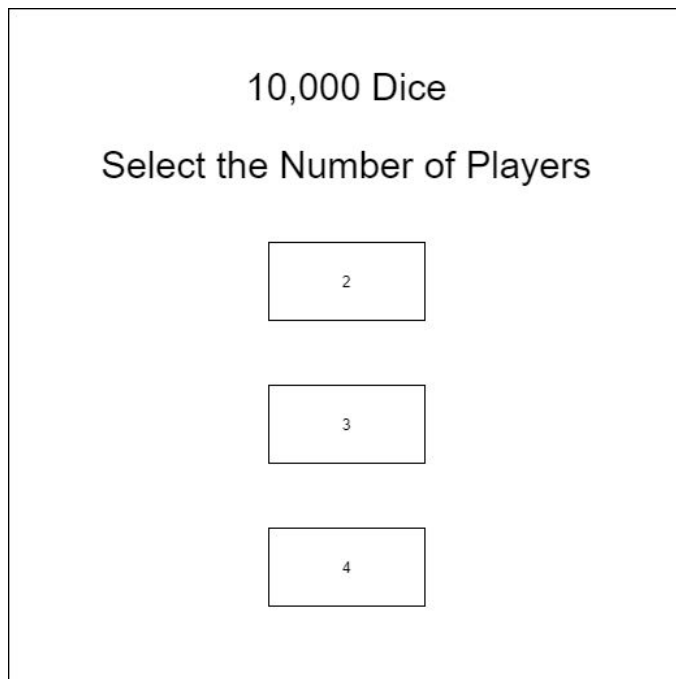
If a player rolls their dice at their start of their turn and there are no points shown, they may re-roll once. On any other occasion, if they roll the dice and there are no points shown, that player will forfeit all points and end their turn.

When a player has scored and chosen all 6 dice, they MUST keep their points for the turn and reroll all dice.

To win: A player reaching a score at or above 10,000 becomes the temporary winner, then they must keep their lead as all other players get a chance to roll one more turn. The highest score after all players have rolled is the Official Winner

References:

<https://www.mtnbrook.k12.al.us/site/handlers/filedownload.ashx?moduleinstanceid=17468&dataid=14501&FileName=10000-dice-game-directions-printable.pdf>



10,000 Dice

Select the Number of Players

2

3

4

Above: Sample screenshot of 10K Dice main screen