Hackathon X:

Text based Rummikub:

Example board:

Group 1: [R1, R2, R3]

Group 2: [R1, B1, Y1, K1]

Group 3: [Y10, Y11, Y12, J0]

R = Red

B = Blue

Y = Yellow

K = Black

J = Joker worth 0 points

Starting:

Empty Board

Drawpile

2 - 4 hands

Deal 14 to each player

Example player hand:

In code can be dictionary or list(prob this) {1: B2, 2: G3, 3: B4, 4: J}

B2 G3 B4 J

Player Options:

1. Play
    a. Go out (30 points, cannot use existing groups)
        i. Enter groups/runs from pieces in your hand, must add up to ≥30 points
        ii. Check to see if input is valid
            1. Correct number of pieces
            2. All pieces from your hand
            3. groups/runs must have valid structure
        iii. Check to see if number of points is enough
        iv. Add to main board
        v. Check to see if solved
    b. piece in specific group(s)/run(s)
        i. Select which groups to edit/add pieces to.
        ii. Separate groups/runs from main board and place in temp list
        iii. Ability to add pieces from hand to any of the groups in any order. Ability to arrange groups in any order/orientation
        iv. Ask user to place tiles in this format ([[..,..]])
        Ex: [[R1, R2, R3], [R1, B1, Y1, G1]]
        v. Check to see if input is valid
            1. Correct number of pieces
            2. All pieces from original group and from your hand
            3. groups/runs must have valid structure
        vi. Add to main board
        vii. Check to see if in a solved state and if solution is valid
            1. If player has pieces in their hand then skip check

2. End turn (if not played grab a tile)
3. Solve - see if possible to solve
    a. RUMMIKUB SOLVER(see below)

Ask user to place tiles in this format ([[..,..]])

Ex: [[R1, R2, R3], [R1, B1, Y1, G1]]

Game Loop:

BOARD

Group 1: [R1, R2, R3]

Group 2: [R1, B1, Y1, K1]

Group 3: [B5, Y5, K5]

Group 4: [B4, B5, B6]

PLAYER 1 HAND

B7 K10 Y2

(MENU) - Options -> picked option 1

Which groups do you want to use? 3 4

BOARD

Group 3: [B5, Y5, K5]

Group 4: [B4, B5, B6]

PLAYER 1 HAND

B7 K10 Y2

Enter your solution: [B4, B5, B6, B7] [B5, Y5, K5]

(MENU) - options → end turn option 2

BOARD

Group 1: [R1, R2, R3]

Group 2: [R1, B1, Y1, K1]

Group 3: [B5, Y5, K5]

Group 4: [B4, B5, B6]

PLAYER 2 HAND

K7 K6 Y1

Need To do:

1. Test everything
2. Make sure everything has comment on everything
3. Devpost
4. README.md
5. Make a video
6. Implement the solver

Test cases for goingOutSolver:

General cases:

B8 R8 Y8 K8

B10 B11 B12

Edge cases:

B10 K3 K8 Y1 K10 R1 R2 R3 J0 R8 K5 Y6 R6 B9 B8 B3 J0

B10 R10 Y10 J0 R3 R4