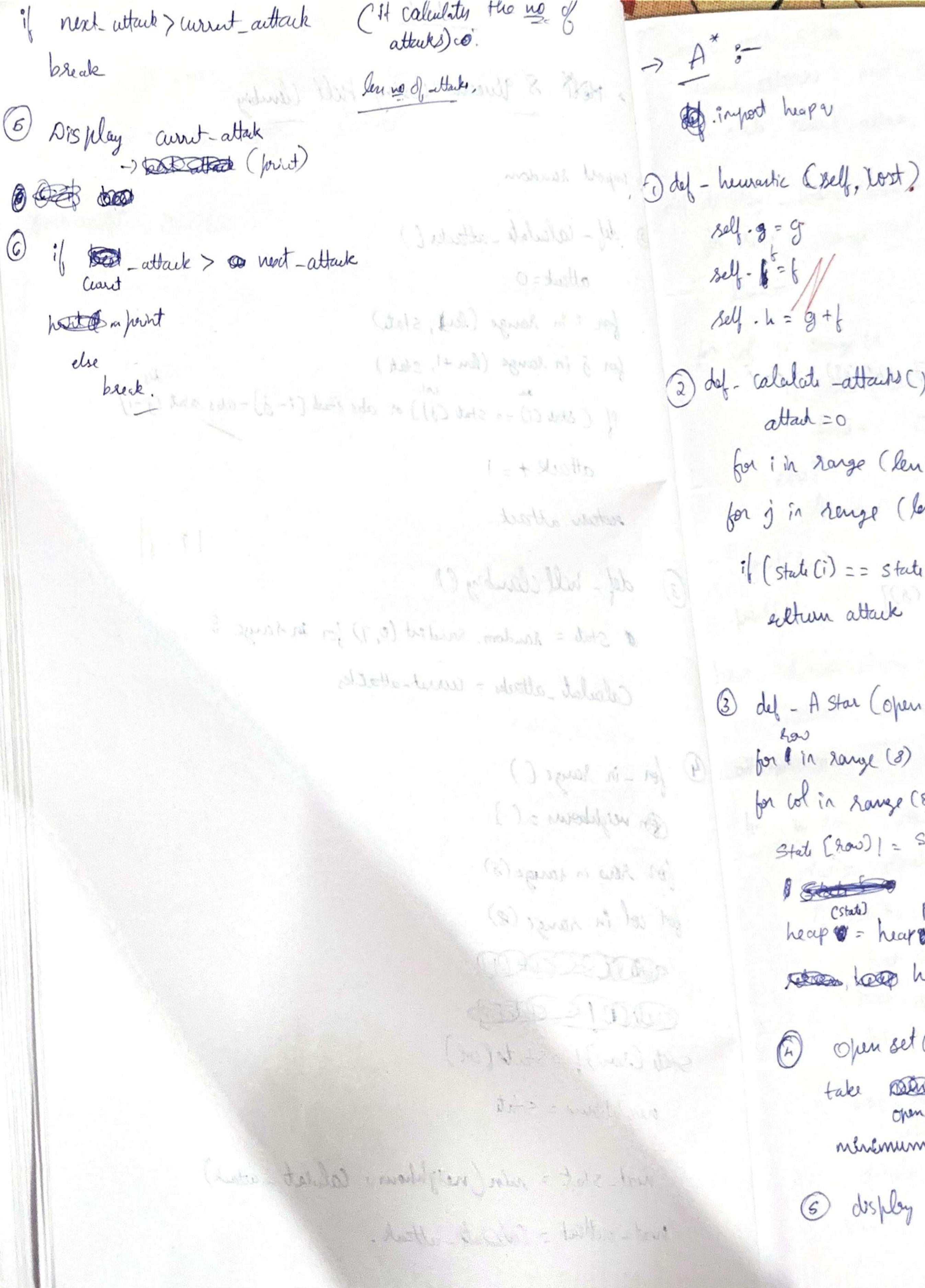
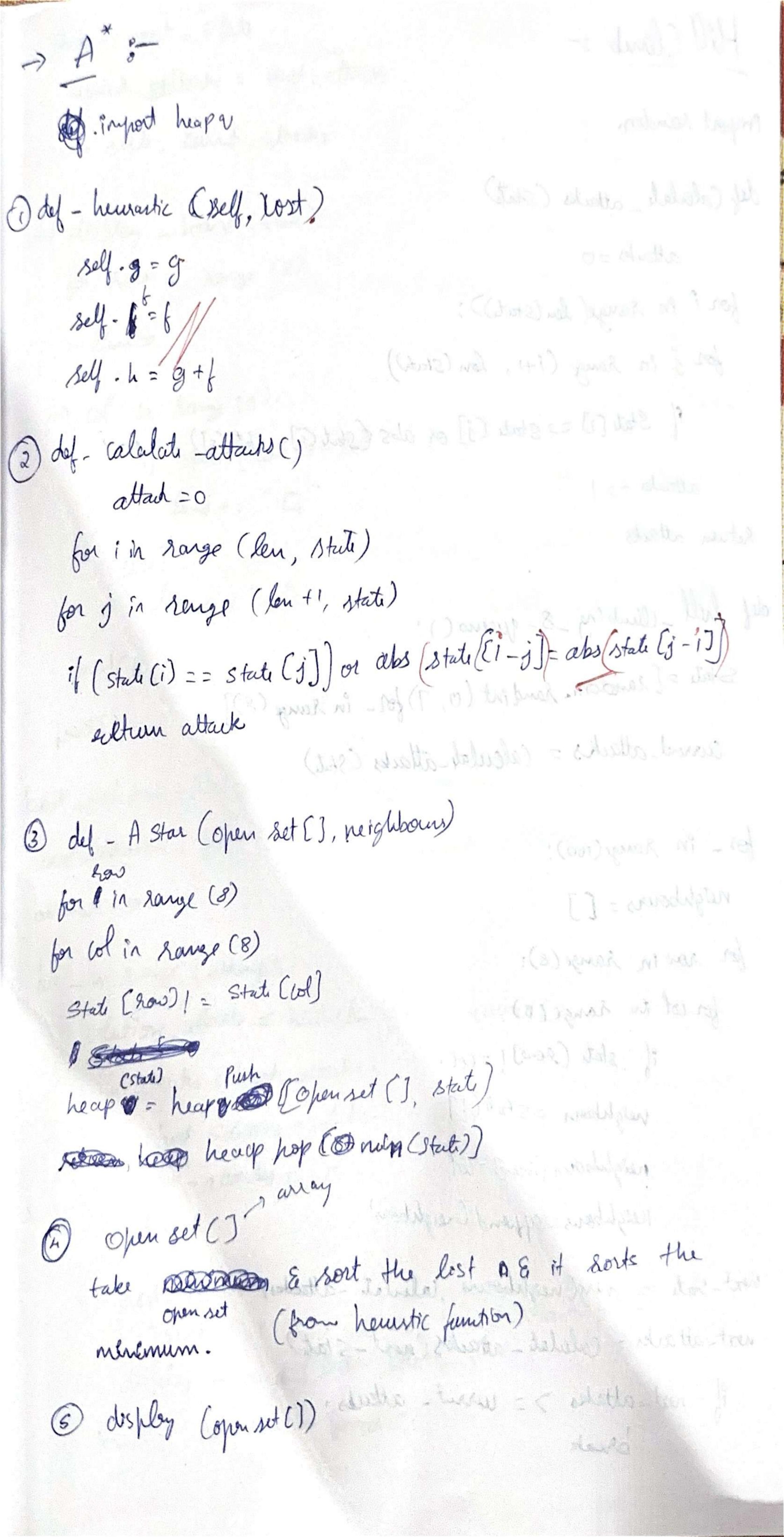
> Hold 8 queens using Hall Clamby the state of the s O smyort sandom 1030 3 def - Calculate - attacks () short as a stable that treat in the for i in range (lend, state) for j in lange (len +1, state) ef (state (i) == state (d)) or abs start [i-j] = abs state (j-i) attack + = 1 setur attack 19-9 def- well clambing (1) 1 State = Random. Roudist (0,7) for in large 8 Calculat _attacks = curret-attacks (4) for -in range () Bon weighbourn 2 () for row in range (8) fot col in range (8) State DI) State DIE State DE State (row); = State (col) neighbours = State

Lab-6

next-state = ruln (neighbour, Calulate-attack)
next-cuttack = Calculate-attack.



self-1= f The state of the s self. h = g+f (2) def- calalate -attacks () attach = 0 for i in range (len, stuti) for j in renge (len +1, state) if (state (i) == state (j]) or abs (state (i-j) eltun attack Court of the balance 3 del - A Star (Open set [], neighbourn for 1 in large (8) for colin range (8) State [Row) 1 = State (Wol) heap = heap was [open set (), state) return look heads hop (not (State)) Open set () take someone & sort the les openset (from heurstic for menemum. display (open set (1)



Hell Clemb :the second of the second of th Proport randon def Calculate_attacks (State) (trained like) stranger - like attacks =0 E = 6. Pag for i in range (den (state): 1 - 1 - 1 for j in range (i+1, lon (Start)) 1. 18 二月1 If State [i] == State [i] or abs (State (i) - State (j)) == j-i attacks += 1 Return attacks (That have then that) def hell-Utubing -8-queens (): State > [random. randint (0, 7) for- in rang (8)] (take 12 ad) grant in that) current-attacks = (alculate-attacks (Sfute) rescentiary, Distribution and A - 16 g for - in range (100): for A in sample (3) neighbours = [] (8) rend villa vet for row in range (8): Dali Kota - (Coer) but for vol in range (8): of state (sow) ! = col! Constant Library neighbour 25 tuti [:] TOTAL STREET, neighbour (non) 2 col neighbour append (neighborn) vext-state - men (neighbours, balenlate - attactes) vest-attacks: Calculate - attacks (next-state) next-attacks > = wrent-attacks:

State = next - State aurust - stiltains = reset_attacks solu state, curut - attacks del display - ward (state): for sow in range (8): Por Q Land Brief Black Belling (wat of water to have llue = " " for col in range (8): Proposelly baged ? 9/ state [row] = > col is about the watton of theb. lenge +: "Q" allowards for newly father of the contra else:
len += "." barred to 21 parties & SE tuered as anthon housest. fortil (live) in the present have theren purt () that, busing a passed of best solution = Name to bound. best-attacks = float ('in6') attempt= 600 i (Lead/whit) br _ n sange (attempts): solution, attacks = hell-claubry - 8-queens () if attacks < best-attacks: Per partinal last best- Solution = solution best - attacks 220: 1 3004: (8,A)M Well 1 1 dog : (1.8) 9 6 pent (f" Best solution & birt-attacks 3:")

display - board (best-solution)

ht (" Man Rod, him 1il best-solution: els! wind (" No solution found.") Hereby of horon is all to found. Little La color (10 00) melling on (20 100)