Consider the following freshem: As per the law, it is a cumi for an American to weapons to hostile nations. Country A an enemy weapons to hostile nations. America has some minites and all the minites America has some who is an American who is an American were sold to it ky Robert, who is an American Prove that "Roburt us viminal" · American (g) 1 wealon (q) 1 belos (h, a, x) 1/10 o phin was soin p-> Amurican g - Meagum) 7 - Hostile brude proport : Manger, p- a Crimminal (productions) · Country A has muniter. This can he expressed on Itz Cown (A, x) N munice (x)) Country A own an object of and that I is a mining · Instantiating with a specific minite(71): Owns (A,T 1) Aminice (T1) He are ficking a specific minite called II and replacing x with it Ax (munite(x) \ Dwns (A, x)) => bells (Roburt, x, p)

Roburt soid minite() to

dells (Roburt, TI, A) wanty h

For every minite wanty owns Roburt soid all the

minites to wanty A · munices are encapions munils(x) =) Weapons(x) · Enemy of america which is wuntry A is a hortheration In (Enemy (x, America) =) Hostile (x)) · Robert is an American

American (Robut)

Higger - Weber Personny in & Fredrich Akhleying the kain American (Rothuru) del in Volad (100 una, 20 m, we) Report buld missibility to country A: Micarion (TI) Itosfill(A) Adella (p.q. r) A : American (p) Aweapon (q) Hostia (Y) => crimeral (h) return I ku del achina-neca (possidire) suppres, suppres, buta): q= rt precion (Robert) N Weapon (71) N Seen (Robert, F1, A)

precion (Robert) N Weapon (Robert)

N Hostile (A) => (rimenal (Robert) of in valid Chard rais bocord frow]: wi ' of alpha?: heta Op? Rows is a crimen is

1 and, solver, 100000, 8000000 police. Juhurun True 1. :: familiond xurum Pacis :(! was po in iteration ( più più più e en può Children in i giring - hata process, o, osquar, ale i howy nother on Maria Maria Maria

Algora-Beta fruning in 1 Queens def in valid (board, row, col) board Flos == x+[7] brood ( A) will gold (b) varboson (d) Ketwen False (r) so commence (h) retwen Tru def alpha-heta (board, row jalpha, heta):

if a quien is placed in all (our we found a hour) Look through cach column ( horas) u) is\_u alid ( board, sous,  $\omega$ ); Not col in range (8). bound [row] = col 1) the current branch cannot would in a hully of 'w' alphas: heta rocea k Recursively iterate for each "Our minion ij alpha. keta (borard, 80 w+1, alpha, heta). Setwen True Undo awwen more board frow ] = = 1 Stateurn False dy down (). boond = 1-17 + 8 aupha: , good ('i'm') heta: float ('irg') y alpha-huta (board, o, alpha, heta): guturn hourd 01P: elu: docution found return None 10,4,7,5,2,6,1,3)

mun Max Algorithm for Tic Tac Be del game over (60 and): diagonal del wheek 80 win range (3): i hoard trousso) == board (rous)(1)== howd (rous)(2) and board ( so w) (o)! oceans Truc for son in early (3): for colin range(3): of board [0] (col) == board[1] (will == board[2](col) and board(o)(b):: ) (la) (o) source par = (100) (wox /20-200) setwin true uj board (0)(0)=)= board(1)(1)== haard(2)(2) ana roand (0) [0]! = ' ener if board is full : [] a) [a) rood for rowin range (3): for col in range(3): uf board from ? (wi)== my freel octurn falu writing busind Evaluary the poard and retwen the score dy evaluate (board.): y boord (row)(o) == X: in board (al) (b) = xx 'san har in poord (0)(0) = 2' X' . ruturu 10 y board (0)(2) = = 'x: enfoc : yctum -10 \x':10 o now two , 0, -10 draw: 0

Minmax (board, deprin.)
11 Explore all provible juture moves evaluate the current de minmax (board, depth); Outcomes and choose the hest one for the current uj us-game Over Choard? return evaluate (hoord) Meturn siver for row in range (3): : (E) apriler in: = ; (100) (0) boundy ; for col in range (3) ej noad (row) (vol) == 1 (iv) 10100000 hoard(row)(w1) eval minimar (hoard, defith + 1, False) up board (row) (col )== ; ![0] (0) Che boand(row)(w1) == 'o eval: munimax (board, depth +1, True) == [] ( ) [ = = = ] [ = = = ] Output arrient hoard X 0 X OXO hert mare air (2,0) : 0': = (5) (0') 3 x 2x