VIMPLE MENTATION OF CLUSTERING EXPNO. 5 TECHNIQUES K. MEANS. MINMAX. DATE MINIMAX AIM = To implement a k-mean dustering technique wing python language algorithm problem using python. Land But Come Con PSEUDO CODE:-Function Midimax (mode, depth, is praximizing Player): If depth ==0 a node in a leaf mode? return wode. value. If it Maximixing Player: max Eval = -infinity For each child private: eval = Minimar (child, depter-1, false) max Eval = max (max Eval, eval) Return mintral Function Fried Best Move (2001): but hove Value = injurity but Moutudex = -1 Myst. stor swines is For each child of node. eval = minimax (child, depth-1; true) nuir Eval, eval) - David Rower fills - I The Medicine - fills ectum nuis Eval il bi supal klip unkn jih er sagang pelentingan pang dag palappan sekalah sekerbahan bid

Function Find Best Mare (2001): EastMone Value = - infinity best Nove Index = -1 Fiel each child of root: monetral = Minimax Could, 1, fall) If monetial 7 but Moneyalue: but Nove Value = more Eval but moue Suder = index of that moul Return best prone Judex. t supplied to the contract of CODE :-Victor + Just clar Node: dy_init_ (self, value): suf value = value = sig. duldien = [] def add child (self, child): seg. childeren-append (child) def minimax (node, depth, is-maximixing-player)! is depth==0 praot node ohild class Node: def_unt_(self, ralue): self. value = value suf children =] def add-duild leef, child? self. children append (child) aff minimax (mode depth its maximizing player):

if depth =0 Box not mode duldness: serus mode value. y in makemikuin player: mak eval = float (- in) bacailed in node children: eval = neinimax (child, depth-1, false) nakeval = max (makeval, eval); letur max eval else: min _eval = ploat (ciy), forchild in node children: eval = ruinimax (child, depth-1, Tell) min_eval = nuin (min_eval, eval) retrem run eval. af find best nove (root) best noue value= float ('_ing') belt-moulindex = -1 toli, child in animerate (2004-children): monetalus = minimax (child, 1, False) g mone value 7 best_more_value: best more value = more _ value best moneuider si setul but aroul wider. y_naule_= "_main_": n1=Node(3) nd=Nodels) n3=Node (6) rupe wode (9) NG = NODICI) mb = Node (2) nt = Node (0) min)=wal (0); min 1-add_child (nl); min1.add_child (ne) nund = Node(0); nuin 2. add_child (n3); nuin 2. add_child (n4) nuin 3 = Node(0); nuin 3. add_child (n5); nuin 3. add_child (n6) min 4 = Nodelo) ; min 4. add_duild on 7) ; min 4. add_duild (n8) good-voders) noot add duild Cuin!) root add wild carinal root-add_duild causs) root, add_suild (min) 4)

Dest_move = find best more (coot) prent (f" the best move index town x 34: 2 best mong") (DADE : 1 Atypic Holist Smith 1000 the best more wider for MAX is 1 (supplementation soldier to (Janes Joseph John Mills . J. 17 Miles RESULT! Therefore, the program is encuryally executed and (The Month subject of a output is unified. (Could's took! of the supple is a built. I ha wite: _ energy_tend of suppose for 2014 MONE VIOUR - MICHE MICHE 9 - NEW WALK - HUSE shoul bust near water. · · · Warin - · (2) 1000 - 13 (a) alsold a the Orthou 241 (1) Lhold - JR (2) else = 611 (10) should = 171 (1-1) 00 MA = 5/1 Con binación Roba: Chal Brish Admin (100 Con (10) about-pais (150) kaik kumikasa; (osi) kajis plantainin; (o) skoli = kas (Let And I Let Grant (2m bling Abordary (W) should be in (50) builded mine (my king like,) mine (@) stall - 1 in (ojoboli-tin (Terrise) being bon - 100 Babos klike Shi (comm) blick bir bir (pains Will but in