Problem		
Question 1: To prove that current house allocation is no pareto optimal, I'd like to find another allocation		
that is dominating the current one.		
$a_1 \Rightarrow h_2 \Rightarrow a_2 \Rightarrow h_2 (a_1, h_1)$		
$a_1 \rightarrow h_3 \rightarrow a_3 \rightarrow h_1 \rightarrow a_1 (a_3 h_3) (a_3 h_1)$		
$a_4 \rightarrow h_4 \rightarrow a_4 (a_4, h_4)$		
a, h, 7hy 7h, original: a, h, 7hy7h,		
a2: h2 7 h4 7 h3 7h1 a2 h27 h47h37h1		
az: h, 7 hy 7hz 7hz az h, 7 hq 7hz 7hz		
ay: h17 h37 h47h2 ay h, 7 h37h47h2		
Original: $\{(a_1,h_1),(a_2,h_2),(a_3,h_3),(a_4,h_4)\}$		
New: ((a,,h,), (a,,h,), (a,,h,), (a,,h,)? : a, and a, got the better houses, a, and ay still keep the original allocations.		
The new allocation is Pareto-optimal to current allocation		
. The new actuation is your to enjoyee to the actualistic		
question 2: a, >h, +a, +h, (a, h)	٠, ١, ١	a,: h, 7 h, 7h,
$a_1 \rightarrow h_3 \rightarrow a_3 \rightarrow h_1 \rightarrow a_1 (a_3 h_3) (a_3 h_1) a_2 \leftarrow h_1$,,	az: hz 7 hy 7 hz 7h1
$a_4 \rightarrow h_4 \rightarrow a_4 (a_4, h_4)$ $a_3 \leftarrow h_3$ $a_3 \leftarrow h_3$		azih, 7 hy 7hz 7hz
ay hy ay hy	$a_{4} \longleftrightarrow h_{4}$	ay: hi7 h37 hy7h2
. Follow the TTC mechnism, answer is \((a,,h_3), (a_1,h_1), (a_3,h_1), (a_4,h_4)\)		
question 3:		
$A_{E} = \{a_{1}, a_{2}, a_{3}\} A_{N} = \{a_{4}\} H_{0} = \{h_{1}, h_{2}, h_{3}\} H_{V} = \{h_{4}\} A_{E}$	AN	
a_1 a_2 a_3	Ay	
	h,	
	h3	
	hy L	
h_1 h_1 h_2	h _L	
$\begin{pmatrix} h_1 & h_2 & h_3 & h_4 \\ h_1 & h_2 & h_3 & h_4 \end{pmatrix}$		
$a_1 a_4 a_1 a_2 a_3$		
:. The answer is (ca, h3), (a2, h2), (03, h1), (a4, h4)		
h ₁ h ₂ h ₃ h ₄		
$a_1 a_4 a_2 a_3$		
Chart hi hy try		
$a_2 a_1 a_4 a_3$		
h_2 h_3 h_2		
$\begin{bmatrix} 1 \\ a_1 \\ a_2 \end{bmatrix}$		
a, a4 a2 a3		
h_3 h_1 h_2 h_2		
$\begin{pmatrix} h_3 & h_1 & h_2 & l_4 \\ l_4 & l_4 & l_4 \end{pmatrix}$		
a_3 a_1 a_4 a_2		
h ₂ h ₄		
h_2 μ_2		
α_{4}		
question 4:		
$a_1 h_2 z h_3 z h_4 z h_1$ answer is: $h_1 h_2 h_3 h_4$		
0.5 0.5 a, 0 0.5 0.5 0		
az hz 7 hyzh37h, az 0 0.5 0 0.5		
α_3 α_5 0 0 0.5		
az h 7 hy7hz 7hz dy n + 0 p.5 D		
0.5 0.5		
0.5 0.5		
0.5 0.5		

E, very 15 percent (2-17-12-12-12-12-12-12-12-12-12-12-12-12-12-		C_1 , C_2 rejected
Pick Ly Question 2: Les C, Le Sq. rejected Lg is the last one so autopted Pick C6 Question 3: Les C, Le Sq. rejected Config allept Cg When 3 Settion 1: Loo T. Livil be the maximum, because all nodes are matched and this is the largest peculiar pumber of edges Configuration 2: Livil be the maximum matching In One For 1: Livil has one match to the fluctuation with the Loo Has one match to the fluct shas matched with the So we can't add three edges. Configuration 2: Leo Resident have other choice So both hand 3 one match with the So both hand 5 one match with the so both hand for the will get 1 unit water The source of the neighbor to said submidy has 05 to be put fill 0.5	C	1763 (3 rejected
Auestion 2: Les G. G. G. G. G. Rejected Pick 66 **Config alient G. **Config alient G. **Substitute G. *		
Pick 6 Plek 16 Plek 16 Ruestian 3: 12-19 C,		
Pick 66 Question 3. K=4 C,	question 2: 12=5	
Autostion 3. K24 C, C, C, C, Le rejected .: C176, C, Rejected .: Only allept Cs which 3 estimil: On. 2 will be the maximum, because all nodes are matched and this is the largest possible pumber of edges On, I will be the maximal matching le Or For 1 b, just has one match to 1s, but l, has matched with 1s, Units has one match to 1s but ls has matched with 1s So we cant add note edges. On, For 3, 1s has motohed to 1s So both land 3 are maximal. So both land 3 are maximal. 4 is neither, course 1s are maximal. 5 is 1s are not maximal. 6 is 1s are not maximal. 6 is 1s are not not maximal. 6 is 1s are not not maximal. 6 is 1s are not	D: L (c	•
chem 3 cytim 1: 1. Co or 2 will be the maximum, because all nodes are matched and this is the largest Possible number of edges 1. Co or 2 will be the maximal matching 1. Co or 1 and 3 will be maximal matching 1. Co or 1 and 3 will be maximal matching 1. Co or 1 and 3 will be maximal matching 1. Co or 1 and 3 will be maximal matching 1. Co or 1 and 3 will be maximal with 12 1. Co or 1 and 2 will be maximal with 14 1. Co or 1 and 2 will make edges. 1. Co or 1 and 2 will make the choice 1. Co or 1 and 3 are matched with 13. 1. Co or 1 and 3 will match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 14. 1. Co or 1 and 14. 1. Co or 1 and 15. 1. Co o	PICR C6	
chem 3 cytim 1: 1. Co or 2 will be the maximum, because all nodes are matched and this is the largest Possible number of edges 1. Co or 2 will be the maximal matching 1. Co or 1 and 3 will be maximal matching 1. Co or 1 and 3 will be maximal matching 1. Co or 1 and 3 will be maximal matching 1. Co or 1 and 3 will be maximal matching 1. Co or 1 and 3 will be maximal with 12 1. Co or 1 and 2 will be maximal with 14 1. Co or 1 and 2 will make edges. 1. Co or 1 and 2 will make the choice 1. Co or 1 and 3 are matched with 13. 1. Co or 1 and 3 will match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 13. 1. Co or 1 and 3 will an match with 14. 1. Co or 1 and 14. 1. Co or 1 and 15. 1. Co o	question 3, K=4	C, C, C, C4 rejected
oblem 3 seption 1: Loop 2 will be the maximum, because all nodes are matched and this is the largest possible pumber of edges too 1 Ly just has one match to by But I has matched with by Ly just has one match to by But I has matched with by So we care add more edges. For 3 b, has matched to by Ly one have other choice So both I and 3 are maximal. H is neither, cause (s can match with by Ly one Ly one Resting 1: Because of the neighbor polaterahys To be so it is mall get I wit water Ly one Ly one Ly one Resting 1: Because of the neighbor polaterahys To just will have I neighbor by out by sign get water Ly one		
oblem 3 lestion 1: 1.		
lestin 1: 1. 1. 1. 2 will be the maximum, because all nodes are matched and this is the largest possible number of edges 4. 0. 1. 1 and 3 will be maximal matching For 1 1s. just has one match to 1s. But 1s has matched with 1s. 14. 15. 16. 16. 16. 16. 16. 16. 16. 16. 16. 16		
lestin 1: 1. 1. 1. 2 will be the maximum, because all nodes are matched and this is the largest possible number of edges 4. 0. 1. 1 and 3 will be maximal matching For 1 1s. just has one match to 1s. But 1s has matched with 1s. 14. 15. 16. 16. 16. 16. 16. 16. 16. 16. 16. 16		
Lion, in will be the maximum, because all nodes are matched and this is the largest possible number of edges 4.001, 4.001, 4.001, 5.01, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001, 6.001		
4. Ond 3 will be maximal matching For $ l_2 $ just has one match to r_2 But l_1 has matched with r_3 Ly sust has one match to r_4 But l_3 has matched with r_4 So we cart add more edges. For 3, r_2 has matched to l_3 Ly or r_3 Ly or r_4		
For l ₂ just has one matching For l ₂ just has one match to r ₂ But l ₁ has matched with r ₃ . Ly just has one match to r ₄ But l ₃ has matched with r ₄ So we cart add more edges. Look For 3, r ₄ has matched to l ₃ l ₃ desert have other choice So both l and 3 are maximal. H is neither, cause (3 an match with r ₃ . Look Tibe Tibe Tibe Tibe Tibe Tibe Tibe Tibe	$l_1 \bigcirc c c c c c c c c c c c c c c c c c c $	I will be the maximum, because all nodes are matched and this is the largest possible number of edges
For $ l_1 $ just has one match to r_1 But l_1 has matched with r_2 Ly just has one match to r_1 But l_3 has matched with r_4 So we cart add more edges. For 3 , r_2 has motified to l_3 Ly deepth have other choice So both I and 3 are maximal. H is neither, cause l_3 can match with r_3 . Ly r_4 Ly r_5 Ly r_6 Ly r_6 Ly r_7 Ly r_8 Region 1 : Because of the neighbor relationships r_1 r_2 r_3 r_4 Because of the neighbor r_6 so l_8 will get l_8 with l_8 l_8 but l_8 is full, so l_8 l_8 will l_8 but l_8 is full, so l_8 l_8 will l_8 but l_8 is full, so l_8 l_8 will l_8 and l_8 already has l_8 so l_8 , so just l_8 l_8 only have l_8 neighbor l_8 and l_8 already has l_8 so l_8 , so just l_8 l_8 only have l_8 neighbor l_8 and l_8 already has l_8 so l_8 , so just l_8 l_8 only have l_8 neighbor l_8 and l_8 already has l_8 so l_8 , so just l_8 l_8 l_8 l_8 only have l_8 neighbor l_8 and l_8 already has l_8 so l_8 , so just l_8 l_8 l_8 l_8 only have l_8 neighbor l_8 and l_8 already has l_8 so l_8 , so just l_8	$l_{i} \bigcirc l_{i} \bigcirc r_{i}$	/ and 3 will be maximal matching
Ly just has one match to r_{11} Dut l_{2} has matched with r_{11} So we can't odd more edges. For 3, r_{2} has matched to l_{3} Ly doesn't have other choice So both l_{3} and l_{3} are maximal. H is neither, cause l_{3} can match with r_{3} . Ly or, Ly but l_{1} by but l_{1} is full, so l_{2} ly mill get l_{3} with l_{3} and l_{3} already has l_{3} so, just l_{1} l_{2} so		
So we cark add more edges. For 3, t_2 has matched to t_3 t_4 t_5 t_6 t_7 t_8		Ly just has one match to My But Is has matched with My
For 3, 12 has matched to l_3 l_4 descrit have other choice So both I and 3 are maximal. 4 is neither, cause l_3 can match with l_3 . l_4 or l_4		So we cart add more edges.
Legion 2: Compared to the property of the	$l_2 \bigcirc \longrightarrow \bigcirc h$	For 3, rz has matched to l3
So both land 3 are maximal. 4 is neither, cause (3 an match with t_3) $t_1 \circ t_2 \circ t_3$ $t_4 \circ t_4 \circ t_5$ $t_6 \circ t_6 \circ t_6$ Westion 2: $\frac{r_1 \ r_2 \ r_3 \ r_4}{t_2 \ v_5} = \frac{because \ of \ the \ neighbor \ relationships}{t_1 \ v_2 \ v_3} = \frac{because \ of \ the \ neighbor \ t_6}{t_2 \ v_3 \ v_4} = \frac{because \ of \ the \ neighbor \ t_6}{t_2 \ v_3 \ v_4} = \frac{because \ of \ the \ neighbor \ t_6}{t_3 \ v_5 \ v_5} = \frac{t_6 \ v_5}{t_3 \ v_5 \ v_5} = \frac{t_6 \ v_5}{t_3 \ v_5 \ v_5} = \frac{t_7 \ v_5}{t_3 \ v_5} = \frac{t_7 \ v_5}{t_5} = \frac{t_7 \ v_5}{$		le doesn't have other choice
4 is neither, (au \mathcal{L} (3 (an match with \mathcal{L}_3). 10 0 \mathcal{L}_5 11 0 \mathcal{L}_5 12 0 \mathcal{L}_5 13 0 \mathcal{L}_5 14 0 \mathcal{L}_5 15 0 \mathcal{L}_5 16 0 \mathcal{L}_5 17 1 \mathcal{L}_5 18 1 0 \mathcal{L}_5 19 1 \mathcal{L}_5 10 0 \mathcal{L}_5 10 0 \mathcal{L}_5 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	40-04	So both I and 3 are maximal.
Lestion 2: Because of the neighbor relationships r_1 reg r_3 reg r_4 r_1 put only have 1 neighbor r_4 r_4 r_5 r_5 r_6 r_6 r_6 r_6 r_7 r_8		4 is neither, cause (3 can match with 13.
Lesting λ : Because of the neighbor relationships γ_1 is to only have 1 neighbor γ_2 will get 1 writ water γ_1 is to only have 1 neighbor γ_3 and γ_4 already has 0.5, so just \$ill 0.5		
Usestin 2: $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		
Usestion 2: $ \frac{r_1 r_2 r_3 r_4}{l_1 l_2 l_3} $ Because of the neighbor relationships $ \frac{r_1 r_2 r_3 r_4}{l_1 l_3 l_4} $ Because of the neighbor l_1 , so l_1 will get l_2 unit water $ \frac{r_1 r_2 r_3 r_4}{l_3 l_4 l_4 l_5} $ $ \frac{l_4 l_4 l_4 l_4 l_5}{l_4 l_4 l_5} $ $ \frac{l_4 l_4 l_4 l_5}{l_4 l_4 l_5} $ $ \frac{l_4 l_4 l_4 l_5}{l_4 l_4 l_5} $ $ \frac{l_4 l_4 l_4 l_5}{l_5 l_5} $ $ \frac{l_5 l_5 l_5}{l_5} $ $ \frac{l_5 l_5}{l_5} $ $ l_5 $	(4)	
Usestion 2: $ \frac{r_1 r_2 r_3 r_4}{l_1 l_2 l_3} $ Because of the neighbor relationships $ \frac{r_1 r_2 r_3 r_4}{l_1 l_3 l_4} $ Because of the neighbor l_1 , so l_1 will get l_2 unit water $ \frac{r_1 r_2 r_3 r_4}{l_3 l_4 l_4 l_5} $ $ \frac{l_4 l_4 l_4 l_4 l_5}{l_4 l_4 l_5} $ $ \frac{l_4 l_4 l_4 l_5}{l_4 l_4 l_5} $ $ \frac{l_4 l_4 l_4 l_5}{l_4 l_4 l_5} $ $ \frac{l_4 l_4 l_4 l_5}{l_5 l_5} $ $ \frac{l_5 l_5 l_5}{l_5} $ $ \frac{l_5 l_5}{l_5} $ $ l_5 $	- C7	
Usestion 2: $ \frac{r_1 r_2 r_3 r_4}{l_1 l_2 l_3} $ Because of the neighbor relationships $ \frac{r_1 r_2 r_3 r_4}{l_1 l_3 l_4} $ Because of the neighbor l_1 , so l_1 will get l_2 unit water $ \frac{r_1 r_2 r_3 r_4}{l_3 l_4 l_4 l_5} $ $ \frac{l_4 l_4 l_4 l_5}{l_5 l_5 l_5} $ $ \frac{r_1 r_2 r_3 r_4}{l_4 l_4 l_5} $ $ \frac{r_1 r_2 r_3 r_4}{l_4 l_5} $ $ \frac{r_1 r_2 r_3 r_4}{l_4 l_5} $ $ \frac{r_1 r_2 r_3 r_4}{l_4 l_5} $ $ \frac{r_1 r_2 r_3 r_4}{l_5} $ $ \frac{r_1 r_3 r_4}{l_5} $ $ \frac{r_1 r_3 r_4}{l_5} $ $ \frac{r_1 r_2 r_3 r_4}{l_5} $ $ \frac{r_1 r_3 r_4}{l_5} $ $ \frac{r_1 r_3 r_4}{l_5} $ $ \frac{r_1 r_3 r_4}{l_5} $ $\frac{r_1 r_3 r_4}{l_5} $ $$	40-0h	
Usestion 2: $ \frac{V(s,t)}{V(s,t)} = \frac{V(s,t)}{$		
Uestion 2: $ \frac{V(s,t)}{V(s,t)} = \frac{V(s,t)}{V$	l3 ○ ← ○ 1/3	
Because of the neighbor relationships $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	40 - K	
Because of the neighbor relationships $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	4- 4 ¹ 2 .	
Because of the meighbor (s so he will get I with water 1	LESTION 2:	O
17, showe lists beet lists and get 0.5 13 just only have I reighbor l3 ared ls already has 0.5, so just 1:11 0.5 For his because its neighbor l3 is full, so lygot I writ.	r_1 r_2 r_3 r_4	Because of the neighbor pelationsmys
[3] ust only have I reighter ls and ls allowedy has 0.5, so just fill 0.5 For the because its neighbor (s is full, so (n get lamit.)	l_1 l_2 l_3	V. hove 1 1/2 but 1. is tall so to be will get 0.5
For hy because its neighbor ly is full, so ly got I wit.	l_2 l_3 $0-50.5$ $-$	12 just only have I rejether (2 and b) already has no contract till no
	l_4	En the parame it is neighbor to it tall so the act lands
		100 19 metalise 103 metalito 15 15 / 150 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1 100 1

		unanimity IIA dict	
	2	× × ×	×× ———————————————————————————————————
		* /	X
luestic			
•	r unanin	nit V	
7 0	Alice	Bob Cathy	The group preference will Jollow Bob's profesence.
	C, F, 1	Z I	The group preference will Jollow Bob's profesence. But Alice and lathy have other gregorence. That violated unanimity.
			That violated unanimity.
		I C	
j	For II	A	
Winner			There is no example to violate the IIA. Because it someone want choice Chinese which below choice Italian. (These two choices relative)
lice Bol			Because if someone want choice chinese which below choice Italian. (These two choices relative)
	nese Italian lian Chinese		That agent need to Prejer Italian more than chinese. That violates IIA, Or agent need to make choices indifferent , let other agent's prejerence to be group prejerence. That also violates IIA.
	nch French		So that function is follow IIA.
Winner		whoner	
	Cathy	/	Cathy To the control of the control
	e Italian an Uhinese	Italian/thinese/French Italian	
	ch French		French
lice	Вор	Cathy	No matter what the conditions are, there is a
hinese	Italian	Italian	dictator in the mechanism to always let the
talian	Chinese		me chanism tollow his preference.
French	French	French	
equally	Italian	Italian	
equally	Chinese	Chinese	
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equally Equally	Chinese	Chinese French	
	Chinese French	Chinese French Italian Chinese	
	Chinese French	Chinese French Italian	
	Chinese French	Chinese French Italian Chinese	
	Chinese French	Chinese French Italian Chinese	
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	Chinese French	Chinese French Italian Chinese	
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	Chinese French	Chinese French Italian Chinese	
	Chinese French	Chinese French Italian Chinese	
	Chinese French	Chinese French Italian Chinese	
	Chinese French	Chinese French Italian Chinese	