

SOLUTIONS TO MIDTERM EXAM I QUESTIONS

1.a. (5 pts.)

Avg. Income (\$1000s)	z	$\exp(-z^2/2)$
75	0.6053	0.8326
60	-0.3027	0.9552
35	-1.8160	0.1923
55	-0.6053	0.8326

st.dev. 16.5202

* 65

1.b. (10 pts.)

	cost	benefit	benefit	cost	benefit
	Monthly Rent (\$)	Daily Foot Traffic	Proximity to Public Transit (1-10)	Competition Level	Avg. Income (\$1000s)
L1	5	2500	9	5	0.8326
L2	2.5	800	4	1	0.9552
L3	3.5	3000	8	3	0.1923
L4	4	1500	6	2	0.8326
*	2.5	3000	9	1	0.9552
-	5	800	4	5	0.1923

STANDARD	Monthly Rent (\$)	Daily Foot Traffic	Proximity to Public Transit (1-10)	Competition Level	Avg. Income (\$1000s)
L1	0.0000	0.7727	1.0000	0.0000	0.8393
L2	1.0000	0.0000	0.0000	1.0000	1.0000
L3	0.6000	1.0000	0.8000	0.5000	0.0000
L4	0.4000	0.3182	0.4000	0.7500	0.8393

1.c. (10 pts.)

LINEAR	Monthly Rent (\$)	Daily Foot Traffic	Proximity to Public Transit (1-10)	Competition Level	Avg. Income (\$1000s)
L1	0.5000	0.8333	1.0000	0.2000	0.8716
L2	1.0000	0.2667	0.4444	1.0000	1.0000
L3	0.7143	1.0000	0.8889	0.3333	0.2013
L4	0.6250	0.5000	0.6667	0.5000	0.8716

1.d. (10 pts.)

	Monthly Rent (\$)	Daily Foot Traffic	Proximity to Public Transit (1-10)	Competition Level	Avg. Income (\$1000s)
L1	0.2000	2500	9	0.2	0.8326
L2	0.4000	800	4	1	0.9552
L3	0.2857	3000	8	0.3333	0.1923
L4	0.2500	1500	6	1	0.8326
sum	1.1357	7800	27	2.0333	2.8127

MANHATTAN	Monthly Rent (\$)	Daily Foot Traffic	Proximity to Public Transit (1-10)	Competition Level	Avg. Income (\$1000s)
L1	0.1761	0.3205	0.3333	0.0984	0.2960
L2	0.3522	0.1026	0.1481	0.4918	0.3396
L3	0.2516	0.3846	0.2963	0.1639	0.0684
L4	0.2201	0.1923	0.2222	0.2459	0.2960
	1.0000	1.0000	1.0000	1.0000	1.0000

2.a. (20 pts.)

	Monthly Rent (\$1000s)	Daily Foot Traffic	Proximity to Public Transit (1-10)	Competition Level	Avg. Income (\$1000s)	Total Rank
L1	4	2	1	4	2.5	13.5
L2	1	4	4	1	1	11.0
L3	2	1	2	3	4	12.0
L4	3	3	3	2	2.5	13.5

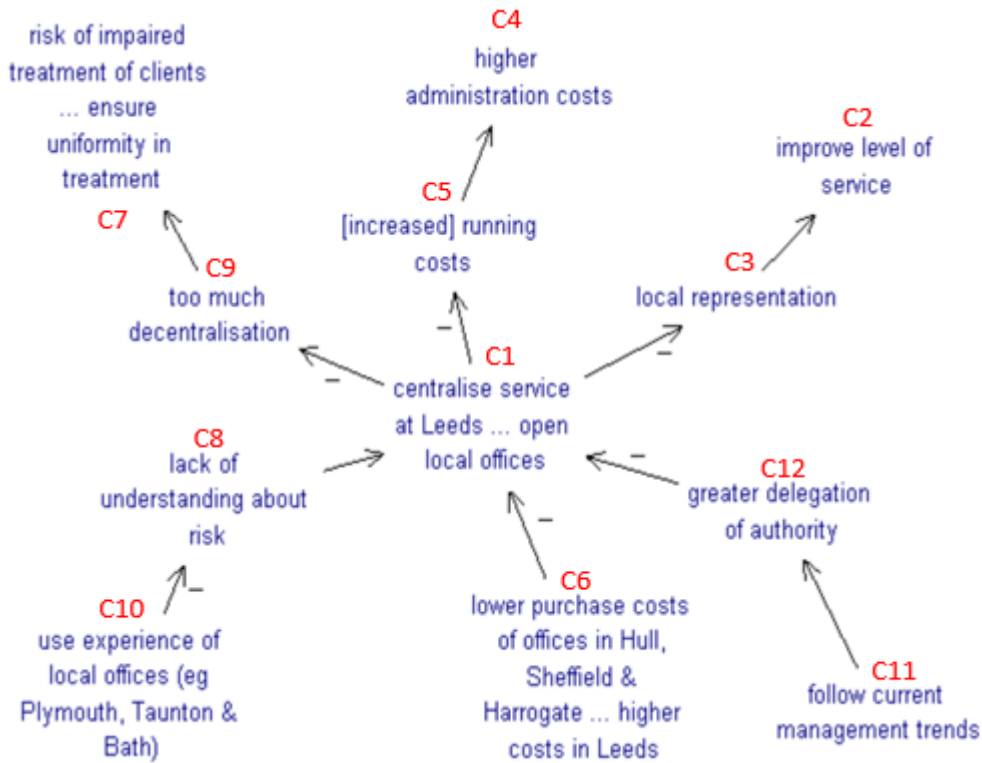
I recommend her to choose Suburban Plaza (L2)

2.b. (20 pts.)

	30%	30%	15%	15%	10%	
	Monthly Rent (\$1000s)	Daily Foot Traffic	Proximity to Public Transit (1-10)	Competition Level	Avg. Income (\$1000s)	Global Score
L1	0.5000	0.8333	1.0000	0.2000	0.8716	0.6672
L2	1.0000	0.2667	0.4444	1.0000	1.0000	0.6967
L3	0.7143	1.0000	0.8889	0.3333	0.2013	0.7177
L4	0.6250	0.5000	0.6667	0.5000	0.8716	0.5997

I recommend her to choose University Campus (L3)

3.a. (5 pts.)



V	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	
C1	0	0	-1	0	-1	0	0	0	-1	0	0	0	3
C2	0	0	0	0	0	0	0	0	0	0	0	0	0
C3	0	1	0	0	0	0	0	0	0	0	0	0	1
C4	0	0	0	0	0	0	0	0	0	0	0	0	0
C5	0	0	0	1	0	0	0	0	0	0	0	0	1
C6	-1	0	0	0	0	0	0	0	0	0	0	0	1
C7	0	0	0	0	0	0	0	0	0	0	0	0	0
C8	1	0	0	0	0	0	0	0	0	0	0	0	1
C9	0	0	0	0	0	0	1	0	0	0	0	0	1
C10	0	0	0	0	0	0	0	-1	0	0	0	0	1
C11	0	0	0	0	0	0	0	0	0	0	0	1	1
C12	-1	0	0	0	0	0	0	0	0	0	0	0	1
	3	1	1	1	1	0	1	1	1	0	0	1	

3.b. (10 pts.)

Centrality	
C1	6
C2	1
C3	2
C4	1
C5	2
C6	1
C7	1
C8	2
C9	2
C10	1
C11	1
C12	2

3.c. (10 pts.)

V2	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
C1	0	-1	0	-1	0	0	-1	0	0	0	0	0
C2	0	0	0	0	0	0	0	0	0	0	0	0
C3	0	0	0	0	0	0	0	0	0	0	0	0
C4	0	0	0	0	0	0	0	0	0	0	0	0
C5	0	0	0	0	0	0	0	0	0	0	0	0
C6	0	0	1	0	1	0	0	0	1	0	0	0
C7	0	0	0	0	0	0	0	0	0	0	0	0
C8	0	0	-1	0	-1	0	0	0	-1	0	0	0
C9	0	0	0	0	0	0	0	0	0	0	0	0
C10	-1	0	0	0	0	0	0	0	0	0	0	0
C11	-1	0	0	0	0	0	0	0	0	0	0	0
C12	0	0	1	0	1	0	0	0	1	0	0	0

V3	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
C1	0	0	0	0	0	0	0	0	0	0	0	0
C2	0	0	0	0	0	0	0	0	0	0	0	0
C3	0	0	0	0	0	0	0	0	0	0	0	0
C4	0	0	0	0	0	0	0	0	0	0	0	0
C5	0	0	0	0	0	0	0	0	0	0	0	0
C6	0	1	0	1	0	0	1	0	0	0	0	0
C7	0	0	0	0	0	0	0	0	0	0	0	0
C8	0	-1	0	-1	0	0	-1	0	0	0	0	0
C9	0	0	0	0	0	0	0	0	0	0	0	0
C10	0	0	1	0	1	0	0	0	1	0	0	0
C11	0	0	1	0	1	0	0	0	1	0	0	0
C12	0	1	0	1	0	0	1	0	0	0	0	0

V4	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
C1	0	0	0	0	0	0	0	0	0	0	0	0
C2	0	0	0	0	0	0	0	0	0	0	0	0
C3	0	0	0	0	0	0	0	0	0	0	0	0
C4	0	0	0	0	0	0	0	0	0	0	0	0
C5	0	0	0	0	0	0	0	0	0	0	0	0
C6	0	0	0	0	0	0	0	0	0	0	0	0
C7	0	0	0	0	0	0	0	0	0	0	0	0
C8	0	0	0	0	0	0	0	0	0	0	0	0
C9	0	0	0	0	0	0	0	0	0	0	0	0
C10	0	1	0	1	0	0	1	0	0	0	0	0
C11	0	1	0	1	0	0	1	0	0	0	0	0
C12	0	0	0	0	0	0	0	0	0	0	0	0

V5	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
C1	0	0	0	0	0	0	0	0	0	0	0	0
C2	0	0	0	0	0	0	0	0	0	0	0	0
C3	0	0	0	0	0	0	0	0	0	0	0	0
C4	0	0	0	0	0	0	0	0	0	0	0	0
C5	0	0	0	0	0	0	0	0	0	0	0	0
C6	0	0	0	0	0	0	0	0	0	0	0	0
C7	0	0	0	0	0	0	0	0	0	0	0	0
C8	0	0	0	0	0	0	0	0	0	0	0	0
C9	0	0	0	0	0	0	0	0	0	0	0	0
C10	0	0	0	0	0	0	0	0	0	0	0	0
C11	0	0	0	0	0	0	0	0	0	0	0	0
C12	0	0	0	0	0	0	0	0	0	0	0	0

R	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12
C1	0	-1	-1	-1	-1	0	-1	0	-1	0	0	0
C2	0	0	0	0	0	0	0	0	0	0	0	0
C3	0	1	0	0	0	0	0	0	0	0	0	0
C4	0	0	0	0	0	0	0	0	0	0	0	0
C5	0	0	0	1	0	0	0	0	0	0	0	0
C6	-1	1	1	1	1	0	1	0	1	0	0	0
C7	0	0	0	0	0	0	0	0	0	0	0	0
C8	1	-1	-1	-1	-1	0	-1	0	-1	0	0	0
C9	0	0	0	0	0	0	1	0	0	0	0	0
C10	-1	1	1	1	1	0	1	-1	1	0	0	0
C11	-1	1	1	1	1	0	1	0	1	0	0	1
C12	-1	1	1	1	1	0	1	0	1	0	0	0