

ASSIGNMENT 4 DISCRETE STRUCTURE (SECI1013)

| NAME | MATRIC NUMBER |
|------------------------------|---------------|
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| LATIF | |

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a) A, B, C, D, F, GI, D, E, G, H, A, K, J, I, H, I

No, the guard will not be back at the guard house at the end of the inspection. Because there are two vertices have odd number of degree which is vertex A and I

b) No, it is not possible. Because the grouph does not possess whenhas a Hamiltonian Circuit Circuit which is a posth that visits each vertex ea exactly once and ends at the starting point. When "guard go to D or G, security guard cannot go to E and F when without repeating same vertices.

| No | S | N | L(B) | L(A) | LCC | L(0) | L(E) | LIFE | |
|--|--|--|--------------------------------|---|---|-----------------------------------|--|--|----|
| a | £ 3 | €4, A, C, D, E, F} | 0 | 8 | 8 | ∞ | ∞ ' | 8 | |
| 1 | EB3 | EA,C,D,F,F3 | | 3 | 1 | 6 | 00 | 00 | |
| 2 | E8, C3 | &A,D,E,F3 | | 3 | 1 | 5 | 5 | 00 | - |
| 3 | ₹8, ८, ₹3 | € P, F, F3 | | 3 | | 5 | 5 | 8 | - |
| 4 | €B, C, A, D'3 | EF,F &E,F3 | | | | 5 | 5 | 8 | |
| 5 | €B,C,A,D,E3 | €F3 | | | | | 3 | - | .1 |
| 6 | €B, C, A, D, E, F3 | £ 3 | | | | | | 7 | |
| | | | *TOUR VORGON | aga/Mygle | ALVENO DOS | ADVAMAJO | Mondonfo | MANANAM | |
| The state of the s | AMPANA . | | Marriage | Authre | DAMPAN | Albanda | TOPPOP | AND DAY | |
| ARARAMAN . | AN TO THE PROPERTY OF THE PARTY | THE CONTRACTOR OF THE CONTRACT | araaligastaaaagaagaahagaagaaaa | MANAGORAN THE WAR AND | MANANANANANANANANANANANANANANANANANANAN | Laberary Aurunge and Chilliangton | WANTED BURNESS CONTRACTOR CAS CONTRACTOR ON CONTRACTOR CONTRACTOR ON CON | and have been accepted the same of the sam | |
| | 1 | Poss | Hann | AMA . | ASS. | AMA | * | Mara | |

b) Shortest path: B-C-E-F

tengths: 1+4+2=7 hours

nonimum hours

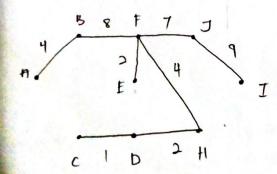


Question 3

- a) n,i,d,a
- b) i) b q c dd i
 - ii) e patial po
 - iii) keibafcmghdnioi
 - iv) kelbafcmghdpnioj

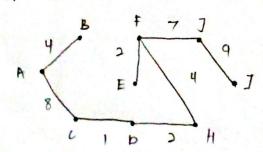
a) Because vertex I does not have any edge to connect with and also the Kruskal's algorithm cannot have a carcuit in it.

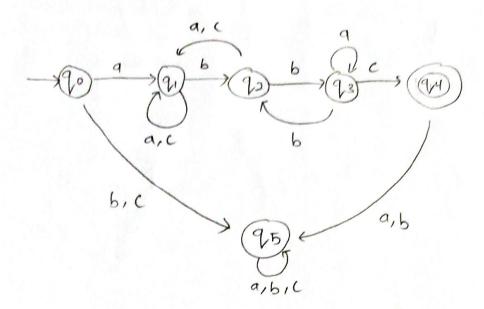
| s) ———— | | uil) adding edge make | | |
|--------------|--------|-----------------------|--------------|------------|
| Edge | length | a este circuit | action taken | cumulative |
| e1 = (c, D) | I A | no | added | |
| Co = (D/H) | 2 | no | added | 3 |
| e3 = (E, F) | 2 | no | added | 5 |
| ey = (F, H). | 4 | no | abled | 9 |
| | | ho | added | 13 |
| ch = (A,B) | 4 | "" | not added | 13 |
| e6 = (E,D) | 6 | Ycs | 1 | |
| e7 = (E,C) | 7 | Yes | not added | 13 |
| (8 = (F,J) | 7 | no | addéd | 20 |
| cq = (B/F) | 8 | no | added | 28 |
| c10 = (A,C) | 8 | Ycs | not added | 28 |
| en = (J,I) | 9 | ho | atted | 37 |
| C12 = (J, H) | 10 | Yes | not added | 37 |
| | 1 1 10 | | | |



Longth = 37 m fotal cost = RM 3700

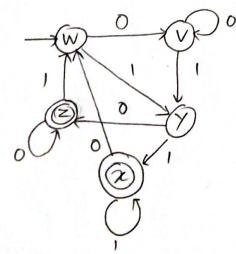
Yes, there are two edges that have the same length which are edge (B/F) and (A/C) and & also both of the edges does not making a circuit of the edges we choose either one.





Question 6

6)



Question 7

G = Ground floor

FI = First floor

F2 = Sccond floor

