# CS481: Bioinformatics Algorithms

Can Alkan

EA224

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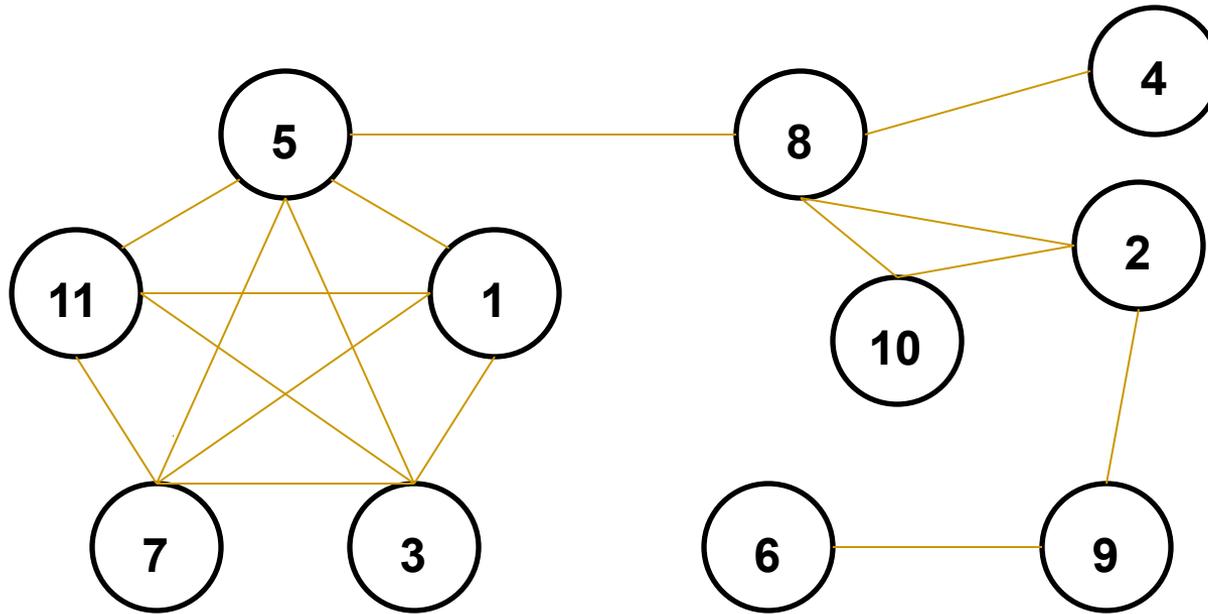**http://www.cs.bilkent.edu.tr/~calkan/teaching/cs481/**

# Quiz 4

**Given the following distance table, construct its corresponding distance graph, and use the CAST algorithm to find the cliques/clusters**

$$\Theta = 8$$

|      | g1   | g2  | g3   | g4   | g5   | g6   | g7   | g8   | g9   | g10  | g11  |
|------|------|-----|------|------|------|------|------|------|------|------|------|
| g1   | -    | 11  | 4    | 17   | 2    | 13   | 1    | 13   | 13.5 | 9    | 2    |
| g2   | 11   | -   | 9    | 9.5  | 13   | 11   | 16   | 1    | 6.5  | 2    | 8.8  |
| g3   | 4    | 9   | -    | 11.2 | 1    | 13.4 | 2    | 8.1  | 9.2  | 6.8  | 1.4  |
| g4   | 17   | 9.5 | 11.2 | -    | 18   | 14   | 13.6 | 7.2  | 9.9  | 16.5 | 9.6  |
| g5   | 2    | 13  | 1    | 18   | -    | 9    | 1    | 6.8  | 12.1 | 8.7  | 3    |
| g6   | 13   | 11  | 13.4 | 14   | 9    | -    | 8.9  | 13.2 | 1.1  | 11.5 | 9.6  |
| g7   | 1    | 16  | 2    | 13.6 | 1    | 8.9  | -    | 9.7  | 10.5 | 13.2 | 11.3 |
| g8   | 13   | 1   | 8.1  | 7.2  | 6.8  | 13.2 | 9.7  | -    | 9.6  | 1.6  | 10.6 |
| g9   | 13.5 | 6.5 | 9.2  | 9.9  | 12.1 | 1.1  | 10.5 | 9.6  | -    | 8.7  | 12.1 |
| g10  | 9    | 2   | 6.8  | 16.5 | 8.7  | 11.5 | 13.2 | 1.6  | 8.7  | -    | 9.9  |
| g11  | 2    | 8.8 | 1.4  | 9.6  | 3    | 9.6  | 11.3 | 10.6 | 12.1 | 9.9  | -    |

# Quiz 4



C1={g1,g3,g5,g7,g11}  C2={g2,g8,g10}  C3={g6,g9}  C4={g4}