4 group task in discrete math:

Edited at 10am 4 June 2018.

1. Solve Jindoh Riddle problem.

http://dishonored.wikia.com/wiki/The\_Jindosh\_Riddle

**Greedy:**

2. What is a Greedy Algorithm?

https://en.wikipedia.org/wiki/Greedy\_algorithm

How do you use Greedy Algorithms in Zimmermann Problems?

**Graph theory:**

3. Explain the Graph Theory.

https://en.wikipedia.org/wiki/Graph\_theory

4. Explain the **Bipartite** graph.

https://en.wikipedia.org/wiki/Bipartite\_graph

5. Explain the **complete** K4, K3,3, etc. graphs.

https://en.wikipedia.org/wiki/Complete\_graph

6. How many edges are there in K97, K89,97?

7. What is a **Planar** Graph?

https://en.wikipedia.org/wiki/Planar\_graph

8. Are these graphs **planar**, why?

http://discrete4math.weebly.com/uploads/2/5/3/9/25393482/graph\_to\_analyze\_for\_planarity.ppt

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9. Give the **Kuratowski** Theorem.

https://en.wikipedia.org/wiki/Kuratowski's\_theorem

10. Explain **Hamiltonian** Cycle.

https://en.wikipedia.org/wiki/Hamiltonian\_path

11. What is **Euler** Cycle?

https://en.wikipedia.org/wiki/Eulerian\_path

12. Solve the **Konigsberg** Bridges Problem.

https://en.wikipedia.org/wiki/Seven\_Bridges\_of\_K%C3%B6nigsberg

13. Explain the **Travelling Salesman Problem**.

https://en.wikipedia.org/wiki/Travelling\_salesman\_problem

14. What is **Djikstras** Algorithm?

https://en.wikipedia.org/wiki/Dijkstra's\_algorithm

15. Explain the **Graceful** Graph.

http://mathworld.wolfram.com/GracefulGraph.html

16. Solve the Graceful Graph Problem for *12* vertices.

http://azspcs.com/Contest/GracefulGraphs

http://discrete4math.weebly.com/uploads/2/5/3/9/25393482/12code12.txt

17. Find the graceful labeling of $K\_{8,9}$

18. Color the map of the country number 99 using as few colors as possible.

http://www.worldometers.info/geography/alphabetical-list-of-countries/

19. Find the number of regions for the graph with 20 edges and 10 vertices.

**Boolean Algebra:**

20. Explain **Boolean Algebra**.

https://en.wikipedia.org/wiki/Boolean\_algebra

21. Explain **simplifying** Boolean expressions.

22. Explain **Karnaugh** Map.

https://en.wikipedia.org/wiki/Karnaugh\_map

**Computational Time Complexity:**

23. What is the complexity of the Hanoi Towers Problem?

24. Explain Fast Fourier Transform.

25. Try to apply for all grants, scholarships, fellowships, etc. in embassies of USA, Canada, Europe, Australia, Japan, etc.

Deadline: 30.6.2018.