CC244: Design and Analysis of Algorithms

As Computer Science students, you need to be exposed to various algorithms and algorithm design techniques. Moreover, it is necessary for you to develop the ability to learn new algorithms.

As preparation, please read on Algorithm Design Techniques and NP-Complete Problems. You may use https://www.geeksforgeeks.org/ as one of your references.

The following topic areas will be covered:

1. Sorting
2. Trees, Heaps
3. Graphs and Other Algorithms

Order 1 to 12 will be submitted on March 6, and order 13-24 may be submitted later on March 10. No synchronous class this week so that you can prepare for the reports.

Order	Student 1	Student 2	Report
	Last Name, First Name	Last Name, First Name	
1	Gonzalve, Russell Sean H.	Datoy, Jilcres	**Mergesort**
2	Salomon, Clement Patt R.	Bustamante, Eurese Antonio A.	**Quicksort**
3	Sendiong, Maria Katrina Angela F.	Ngalot, John Victor	**Counting sort/ Radix sort**
4	Senoc, Gary Lloyd	Aguilar, Adrian Vincent	**Heap/Heapsort**
5	Servidor, Robert Jeff	Tomaub, Rodrigo II	**Binomial queue**
6	Hipolito Jr, Norris G.	Naces, Jericho	**AVL**
7	Awid, Ian Lloyd D.	Otida, Mark Angelo O.	**Splay tree**
8	Tan, Phil Andrei	Ferrolino, John Christopher	**B-tree**
9	Gabutan, Mel Jefferson T.	Reyes, Adrian Paul N.	**Huffman coding**
10	Carba, Jaymark T.		**Breadth-first, Depth-first**
11	Pardillo, Cris John E.	Agosto, Fredierick P.	**Minimum spanning tree**
12	Cellan, Kate Aubrey R.	Genegabuas, Seejee A.	**Network flow**
13	Villaso, Vhanne Brian A.	Tabasa, Prince Joseph G.	**Activity selection problem**
14	Abellanosa, Jefferson J.	Pillones, Monica T.	**Longest-common subsequence**
15	Apas, John Clyde	Caracena, Geralyn	**N-queens / Knights Tour**
16	Cuevas, Shanesha C.	Engbino, Kaye	**Satisfiability**
17	Maranga, Cymmer John	Mansueto, Raphael James Marie Anthony	**Knapsack Problem**
18	Corral, Marc John	Anunciado, Christian Jay	**Graph coloring**
19	Tabasa, Jensine	Sales, Jivielyn Mae	**Rod-cutting**
20	Villacarlos, Ada Pauline P.	Rabanes, Fleurdelisse H.	**Subset-sum problem**
21	Bulan, Melvin S.	Antolijao, Lee Var P.	**Vertex cover**
22	Mercado, Ian Jr.	Costan, John Francdel	**Travelling Salesman**
23	Cabellon, Karl Thomas T.	Hermosa, Mary Yssabelle B.	**Clique**
24	Mabanag, Josephus	Akary, Mohamed	**Integer Factorization-based Cryptography**

Guidelines on the Report

The following should be covered in the video reports

- Brief history
- Actual algorithm illustration
- Algorithm-design technique used
- Running time
- Application
- References

You need to create slides that you will use for the report. You need to submit the slides in the assignment area. The video length is about 15 to 20 minutes. You need to upload the videos in MS Stream and you need to make me an owner of the video.