- 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.

BRIEF HISTORY

Satisfiability or SAT or Boolean Satisfiability or Propositional Satisfiability Problem

- One of the most famous and most studied in the theoretical computer science
- **Cook-Levin theorem** states that Boolean satisfiability problem is NP-Complete
    - Named after **Stephen Cook** and **Leonid Levin**
- The first problem that was proven to be **NP-complete**
    - Computational complexity theory
    - When
        1. A deterministic **Turing machine** can solve it
            - A mathematical model of computation that defines an **abstract machine** that manipulates symbols on a strip of tape according to a table of rules.
                - Also called an abstract computer
                - A theoretical computer used for defining a **model of computation**
                    - Describes how an output of a mathematical function is computed given an input
        2. It can be used to simulate any other problem with similar solvability
- The input is called **Boolean Formula**
    - it should determine whether there exists an interpretation that satisfies a given Boolean formula
    - In other words, it asks if you can consistently replace the variables values with TRUE or FALSE which should result to TRUE
        1. In this case the formula is satisfiable otherwise, unsatisfiable
    - Very simple structures
    - Consists of 4 building blocks – hatag ta example each
        1. Variables
            - X1, x2, x3, and etc.
                - Here x's have only 2 different values
                    - True or 1
                    - False or 0
        2. "not"
            - Katong nay line sa babaw sa variable (x1, x2, x3)
                - Flips the variable

3. “and”
    - Katong bali na v
        - Works on 2 variables
        - Always false
        - True only if both variables are true
4. “or”
    - v
        - True if atleast 1 variable is true
        - False if both variables are false

*Examples combined and building blocks

Sources

[1] https://www.youtube.com/watch?v=uAdVzz1hKYY

[2] https://en.wikipedia.org/wiki/Boolean_satisfiability_problem

[3] https://en.wikipedia.org/wiki/Turing_machine

[4] https://en.wikipedia.org/wiki/Abstract_machine

[5] https://en.wikipedia.org/wiki/Model_of_computation

[6] https://en.wikipedia.org/wiki/NP-completeness

[7] https://en.wikipedia.org/wiki/Cook%E2%80%93Levin_theorem