CASE BASED METHOD

CASE : DESIGN IKN CITY

Background

IKN is new capital city of Indonesia. The city will be designed from scratch to accommodate any government units functions and services. The designed should reflect the efficient use of energy and time.

Your task

You will create a computerised design system that will generate the city topological design that follows the rule. Your system should be able to generate as many as possible design.

Image 1. Task Illustration

The above image only for **illustration**, you should use your **own** image (or using free licence image)

The design rule

- The city map into 150 x 150 cells
- Since it has large cells while the viewport only show portion of it, the viewport could scroll over the map.
- The map design is should be randomly regenerated with well design that follow the rule.
- Your map should contain

- 1 big building (size 10x5)

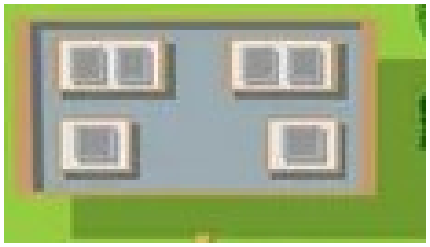

Image 3. Large Building (10x5 cell) illustration only.

- 4 medium size building (size 5x3)
- At least 10 small size building (2x2)
- At least 10 house (1x2)
- Road at least 1 cell width
- Continously 2-lane road (no dead end)
- Road that has only 1 turn should be in curve

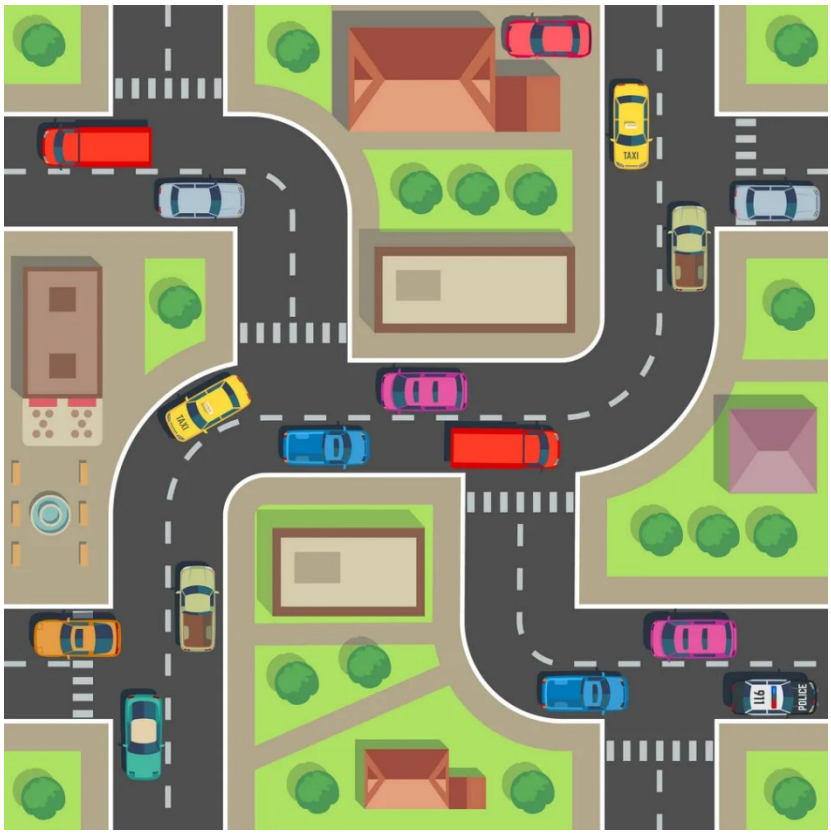

Image 2. Curve road illustration only

- You are free to design the image of building and house.
- Unused cell could be use for green lawn or park or tree or ponds or river. You are free for creative idea.

- Your system should have 1 button to redesign. Each time the button is clicked, the whole map is redesign randomly according to the rule.
- You don't need to draw vehicle on road. Its not the case yet.

The procedure

- All the source code and image should be on one project that pushed to GIT-hub
- Invite my Git-hub account to your project as one of your collaborator, so I can watch your progress. (tekad.matulatan@umrah.ac.id)
- The deadline is on **Wednesday, Academic Week 13**. On the Week 14, you should present your sollution in class.
- You should write a report also, in pdf format, name the report **Final Report -NIM.pdf**
    - Where NIM is your team leader NIM
- The report structure should be:
    - Cover Report

    - Background
        - The background contain what the story behind the case include the problems and the goal of the solution.
    - The Solution

        - The solution should explain how to solve the problem in details. How the algorithm you are are creating to solve the problem. The workflow of process. You should explain the algorithm strategy that you implemented and give snapshot of code or portion of the code that implement the strategy
- The report should be submit using Google Form, link https://forms.gle/dCVW92xWLntGotb26

- The Google Form link will be closed on **Wednesday, 10 am, Academic Week 13** (**not** class schedule week 13).
- On week 14 (class schedule) you should present your code and report in class
- Early submission is preferred