PROFESSIONAL

OBJECTS

INSTRUCTIONS:

Goal of the Project:

In Class 1, you have learned the basic concepts related to object oriented programming (OOP) and have created a paddle and a ball using those concepts. An object in code represents a physical object in the world. The physical object has properties, like shape, color, size etc.

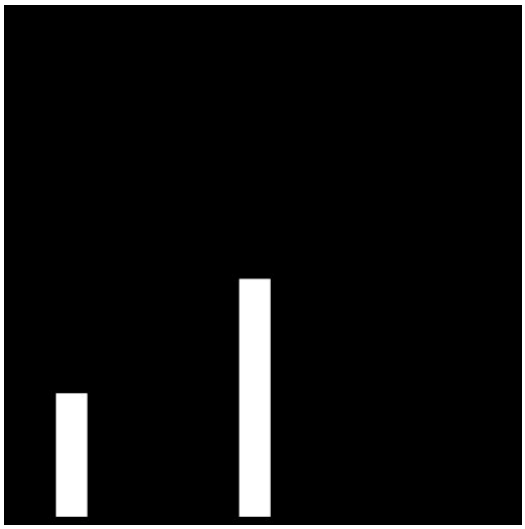
In this project, you will have to practice and apply what you have learnt in the class and create a layout of a city, of which you are a Mayor.

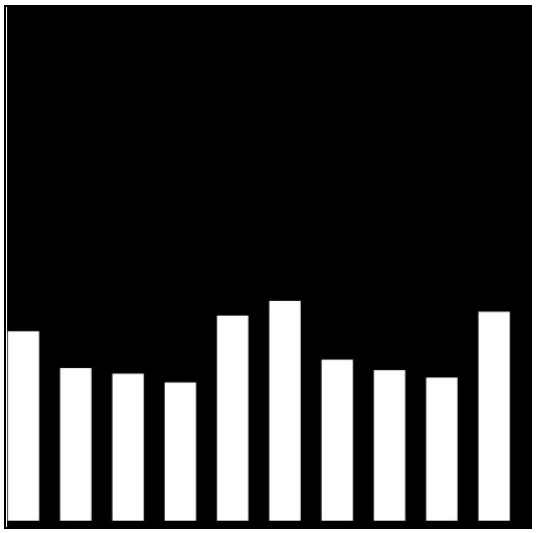
Story:

You, as a mayor of the city, need to create sufficient housing, so that there are **no homeless people** in your city. You have a fixed amount of space to create housing and buildings for every family in the city.

There are **360 families** who live in the city. **Each Floor can house 2 families,** in two adjacent apartments. Hence, a building of 12 floors will house 24 families. You have **space to create only 10 buildings.**

Your task is to create an arrangement of buildings in the city. You can control how high a building can be, by assigning the floors to a building.





***This is just for your reference. We expect you to apply your own creativity in the project.**

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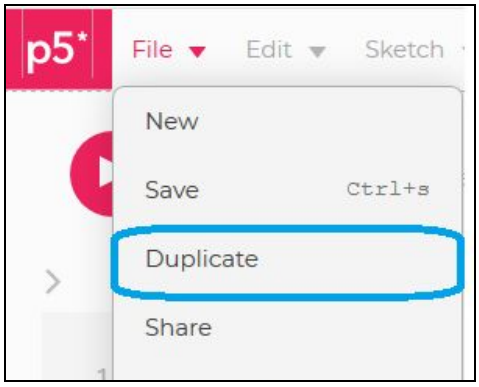
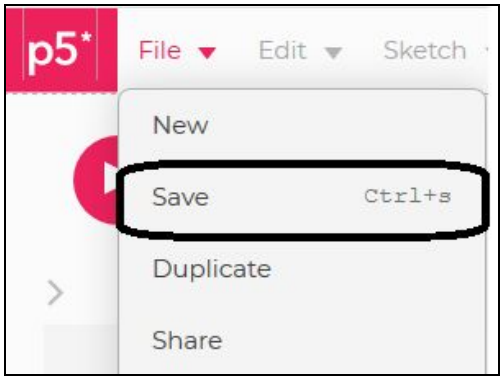
Getting Started:

1. Login to https://editor.p5js.org
2. Click on the following link: https://editor.p5js.org/rupin/sketches/UDOEMKpim
3. Click on "**Duplicate**" under the **File menu**.



4. This will create a copy of the sample project in your account.
5. Click on "**Save**" under the **File menu** to save your project, or **Command+s on Mac** and **CTRL+s on windows** systems.



6. Rename the project to **Project 1** instead of Create your own city and click on **Save**.

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Specific Tasks to complete the Project:

Two buildings have been already created in the project for you.

We have a "**Building"** object, which has a "**floors**" property and a "**position**" property.

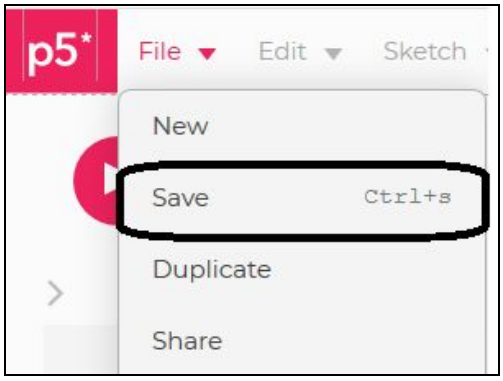
- The **floors property** of the building object determines how high a building will be.
- The **position property** determines where the building will be placed.

1. Create additional "Building" objects, enough to house all the residents of the city.
2. Define the number of floors of a building by assigning a number to the floors property.
    - **<building object>.floors=23;**
3. Position the building at the location 1, 2, 3, etc. by setting the position property of the building object.
    - **<building object>.position=1;**
4. Display the building in the **draw loop**, by calling the display function of the object
    - **<building object>.display()**
5. Do steps 2,3 and 4 for all building objects created.
6. Make sure your city looks unique, by not creating all buildings of the same size, and adding a few open spaces for the residents to use.
7. Click on "**Run**" once to check if it is working.

*Refer to the images given above for reference.

Submitting the Project:

1. Click on "**Save**" under the **File menu** to save your project or **Command+s on Mac** and **CTRL+s on windows** systems.



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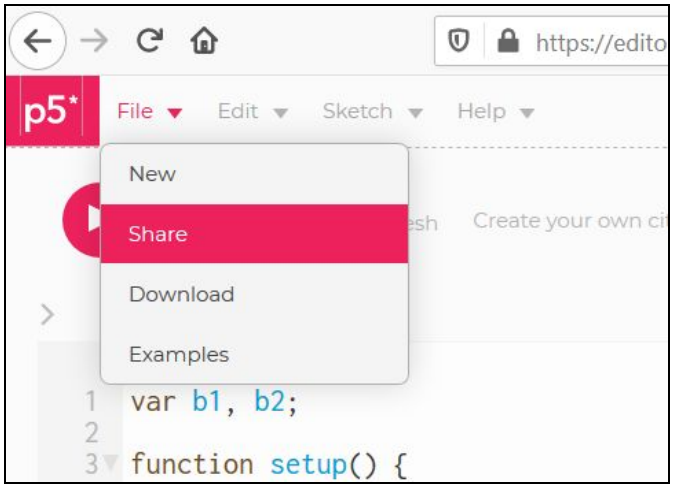
2. Create a sharable link on the P5.js editor by clicking on **File** and then clicking on "**Share**", as shown below.



3. Copy this link and submit it in the Student Dashboard Projects panel against the correct class number.

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Hints:

1. By skipping some numbers in the position property between two buildings, you can create empty spaces.

2. Try and organize buildings of different heights so that smaller buildings do not fall in the shadow of the bigger ones, and hence get less light and air.

3. Build buildings of differing heights, to give your city a unique character.

REMEMBER... Try your best, that's more important than being correct.
After submitting your project your teacher will send you feedback on your work.

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