

# Architectural Design Form Generation

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# Steps of Design Process

- 1- Collecting Data -  
Documentation
- 2- Analysis of Data
- 3- Determine main goal
- 4- Program of project
- 4- Main Concept
- 5- Alternatives of solutions
- 6- Final Design

# 1- Collecting Data :

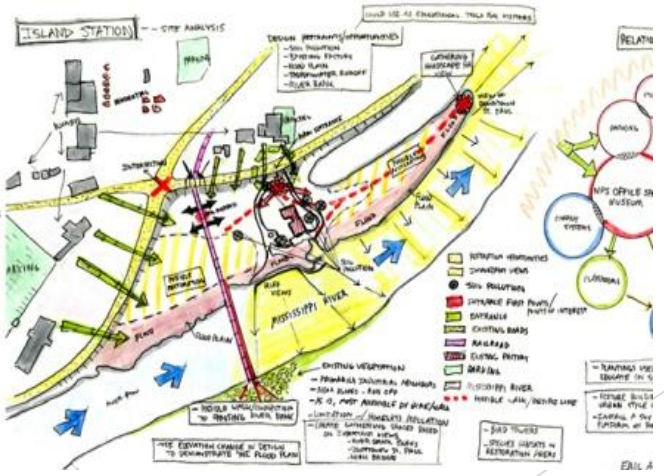
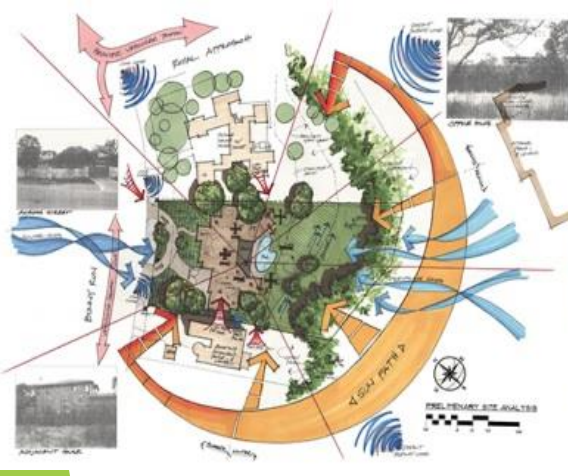
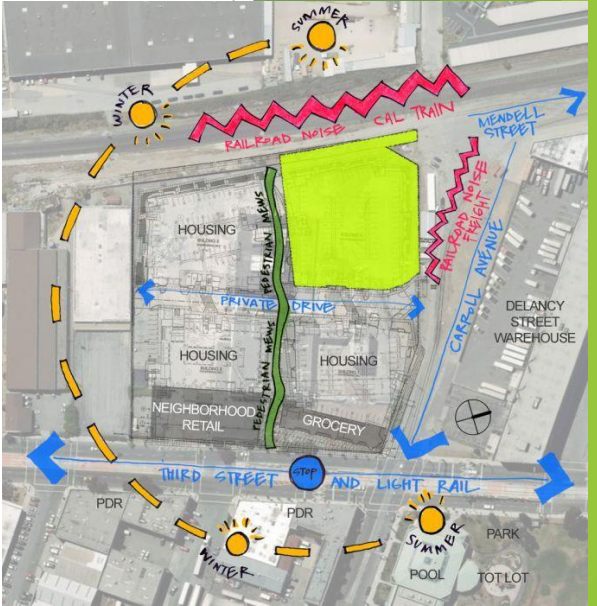
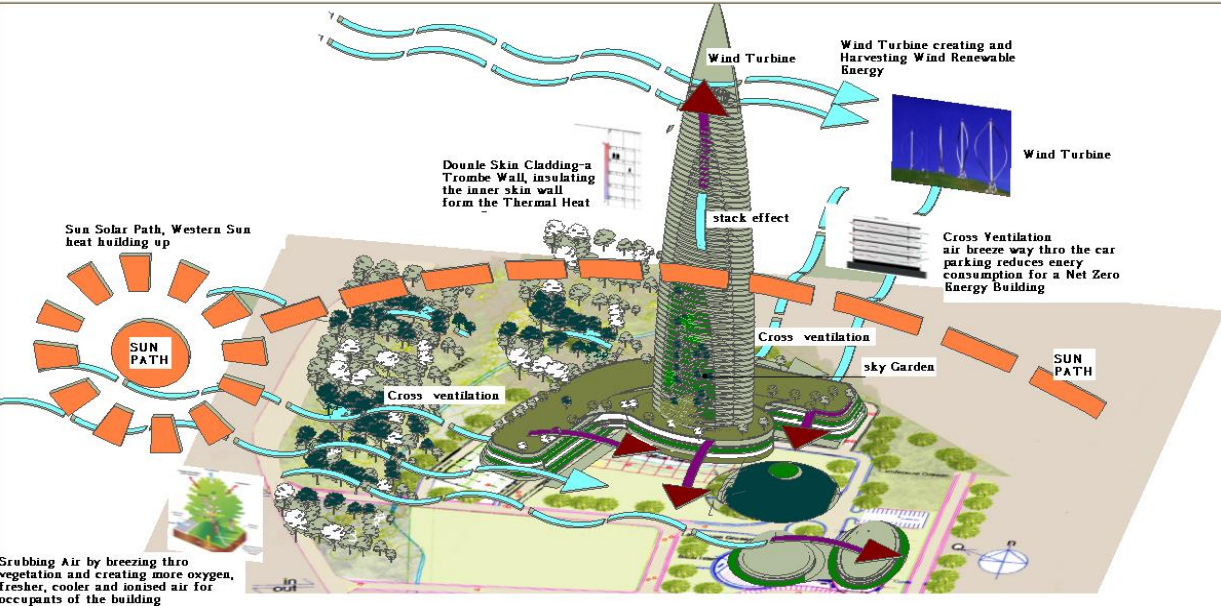
## A- Site Information :

- Location , area , shape , dimensions , ...
- Context , neighborhood , accessibility , ....
- Climate data : radiation , temperature , humidity , wind , ...
- Form of land : contour lines , soil , water , ...
- Laws and regulations



**Site Analysis**

# Site Analysis





## B- Project's Information:

- Type of project

( national Building code – classification of buildings ) )



Group A – Residential Buildings

Group B – Educational Buildings

Group C – Institutional Buildings

Group D – Assembly Buildings

Group E – Business Buildings

Group F – Mercantile Buildings

Group G – Industrial Buildings

Group H – Storage Buildings

Group I – Hazardous Buildings

-Space requirements and functions : areas , heights, positioning and relationships



Basics of design

## Composition of different areas based on requirements



Type of room	Minimum size	Minimum height(m)
Kitchen	Separate dining- 5m <sup>2</sup> with minimum width of 1.8m Separate store- 4.5m <sup>2</sup> No separate dining- 7.5m <sup>2</sup> with minimum width of 2.1m	2.75
Bath rooms	1.5 × 1.2 or 1.8m <sup>2</sup>	2
Water closet	1.1m <sup>2</sup> with minimum width of 0.9m	2
Bath & WC	2.8m <sup>2</sup> with minimum width 1.2m	2.2
Store	3m <sup>2</sup>	2.4
Private garage	2.5m × 5m	2.4

# \*Design Matrix :

Constrains

Problems

Potentials

Urban

Natural

Design

Social

Take into  
consideration

Solutions

Exploit



## 3- Main Goals of Project



## 4- Architectural Program of the Project

Which contains :

- Main goals
- Functional contents of project
- Quantity of spaces
- Areas and requirements



# \*Zoning & Circulation

## Criteria Matrix

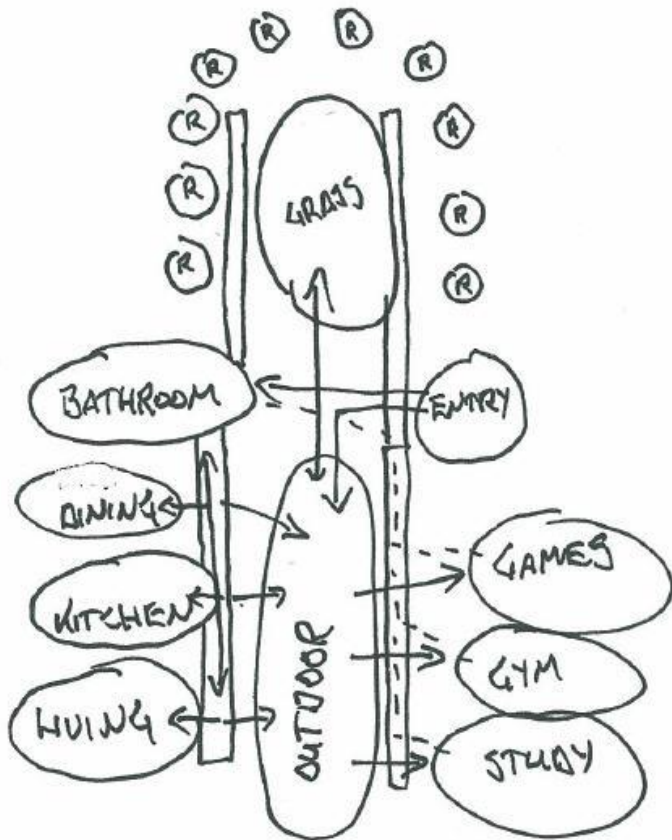
	Special Considerations	Special Equipment	Plumbing	Privacy	Daylight and/or View	Public Access	SQ Footage needs	
Projectors	Y	N	N	N	Y	Y	2500	1. Lobby
Water Fountain	N	N	Y	N	Y	Y	300	2. Administration
	N	Y	N	N	Y	Y	600	3. Bathroom
Projectors,Lighting	M	N	N	N	N	Y	900	4. Screening room
Projectors	N	N	N	N	Y	Y	3500	5. Exhibition/ Gallery
Lounge chairs, Monitors	N	Y	N	N	Y	Y	1500	6. Cafe
	N	N	Y	Y	N	Y	500	7. Conference room
Workout Machines, Sport equipments	M	N	N	N	Y	Y	2000	8. Multi-purpose room
	N	N	N	N	N	Y	1000	9. Library
	N	N	Y	Y	N	Y	300	10.Offices
	N	Y	Y	Y	N	Y	800	11.Kitchen
Computers, Projectors	N	N	Y	Y	Y	Y	600	12.Classroom
	N	N	Y	N	Y	Y	5000	13.Auditorium
Projectors, Storage	M	N	N	Y	Y	Y	1000	14.Games/ Activities room
	N	Y	Y	N	N	Y	350	15.Electrical & Mechanic room
Lawn chairs	Y	N	N	Y	Y	Y	2000	16.Patio/ Outdoor Space
Grand Basin& Pool	Y	Y	N	N	Y	Y	1500	17.Aquarium
	Y	N	N	Y	Y	Y		18.Water taxi
Canoes, Boats	N	N	Y	N	N	N	800	19.Boat storage

Adjacency Matrix

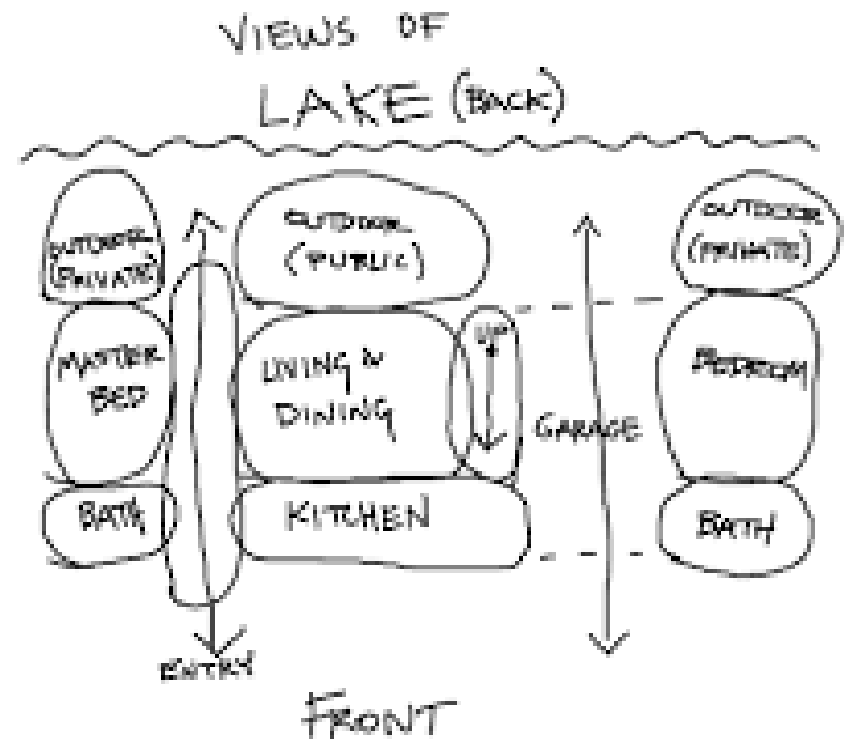
- Must
- Should
- Would be nice
- Y Yes
- N No
- M Maybe

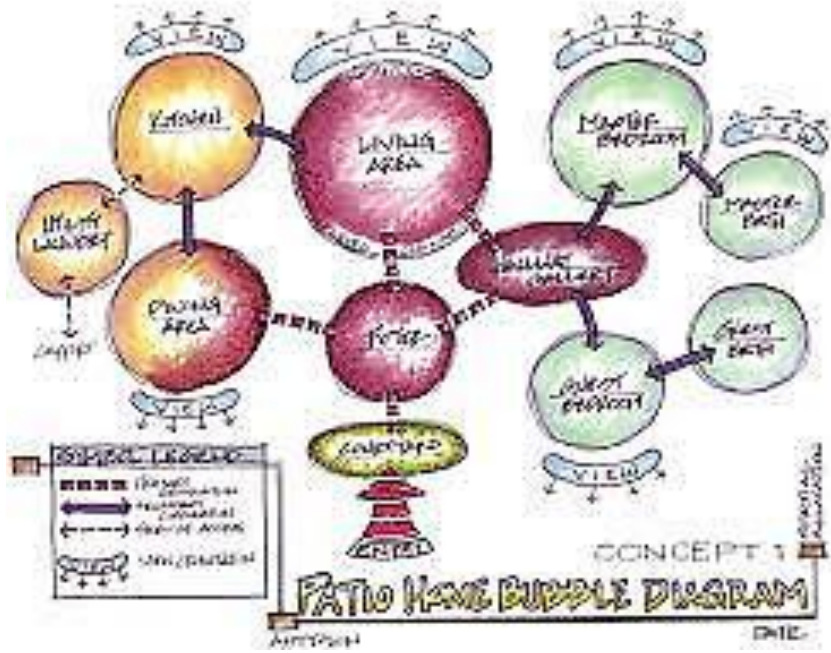
# 5- Main Concept

## Zoning - Bubble- Diagram



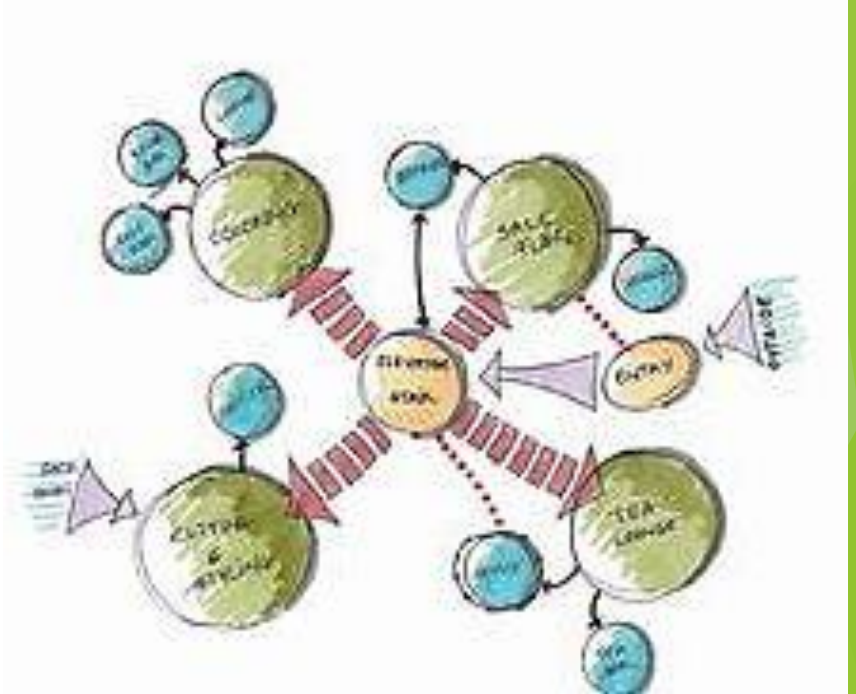
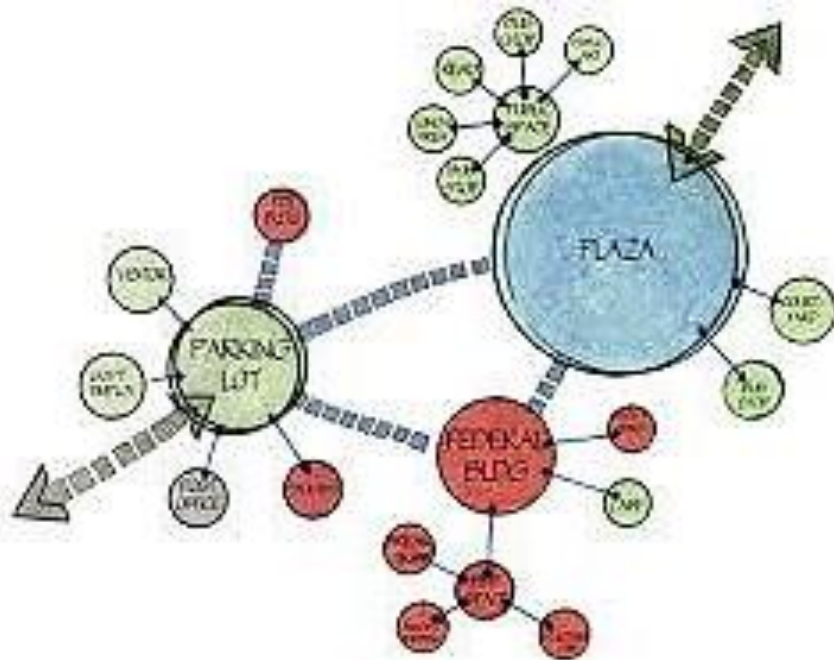
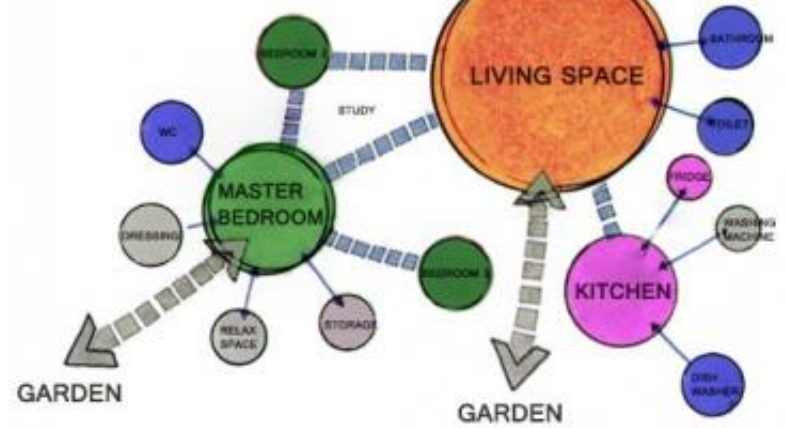
R → ROOMS





## SCENARIO 2

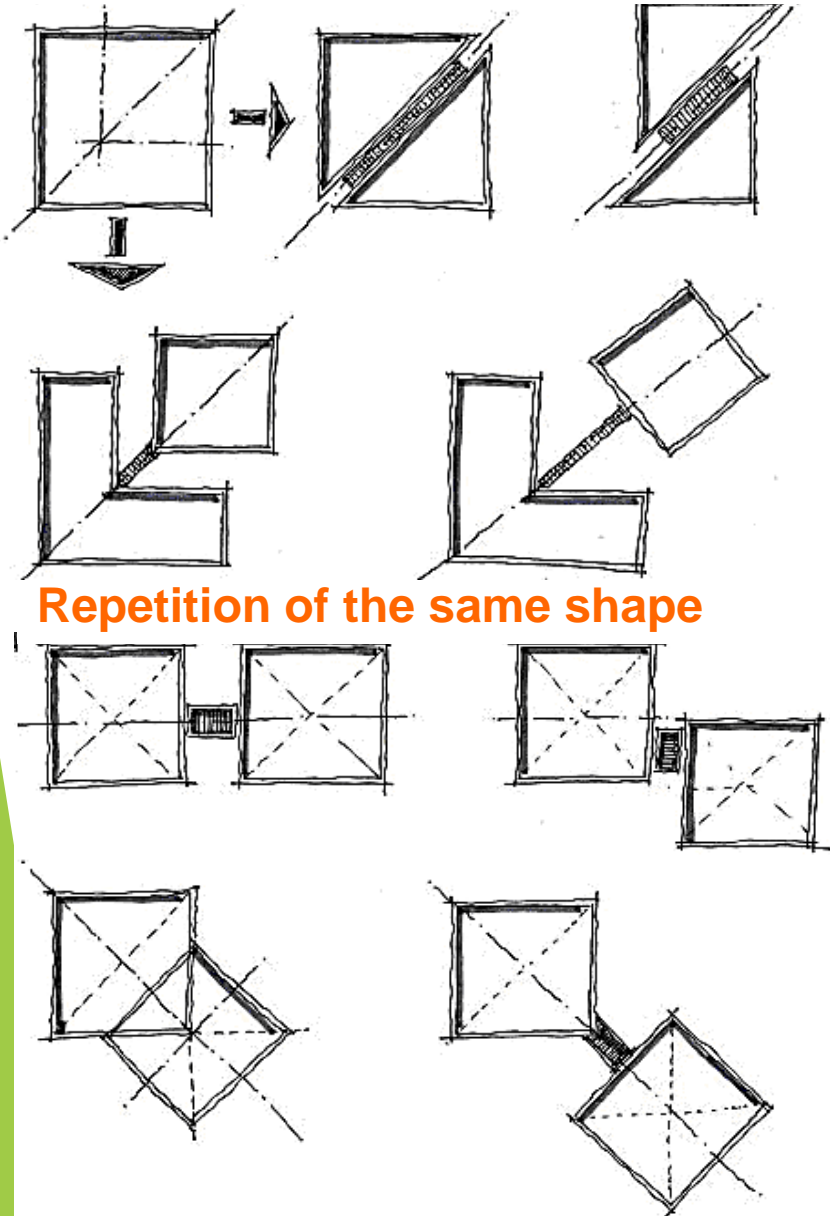
...the scenario includes 3 bedrooms which are flexible and related to each other. They are 2 escapes to the garden one through the master bedroom and one from the main living space. Kitchen is arranged on one side of the living space and the bedrooms on the other.





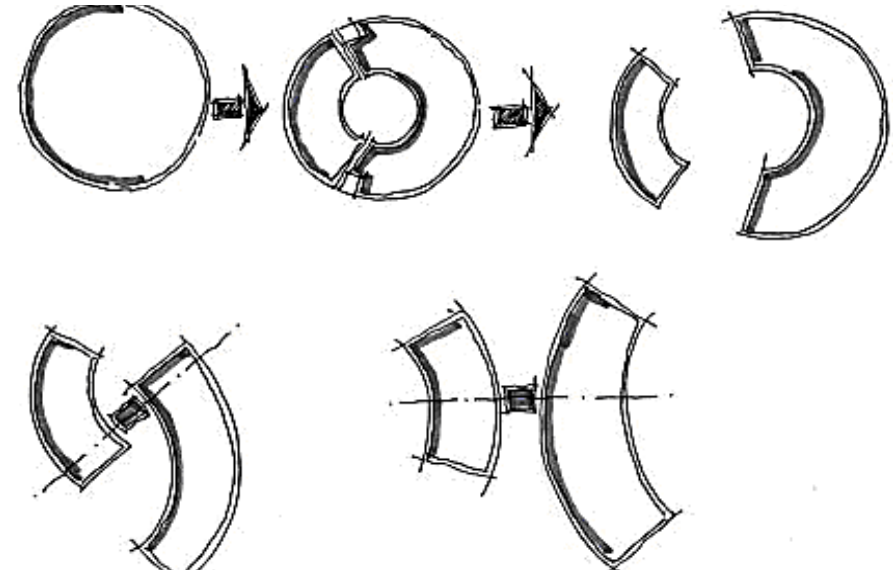
# B-Study of shape

The same shape : Ex. 1 : the square

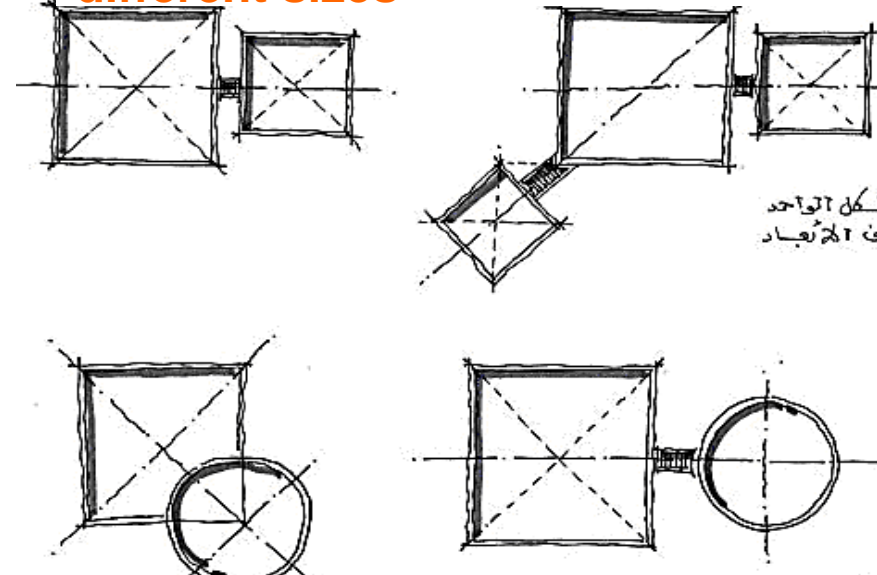


**Repetition of the same shape**

The same shape : Ex. 2 : the circle



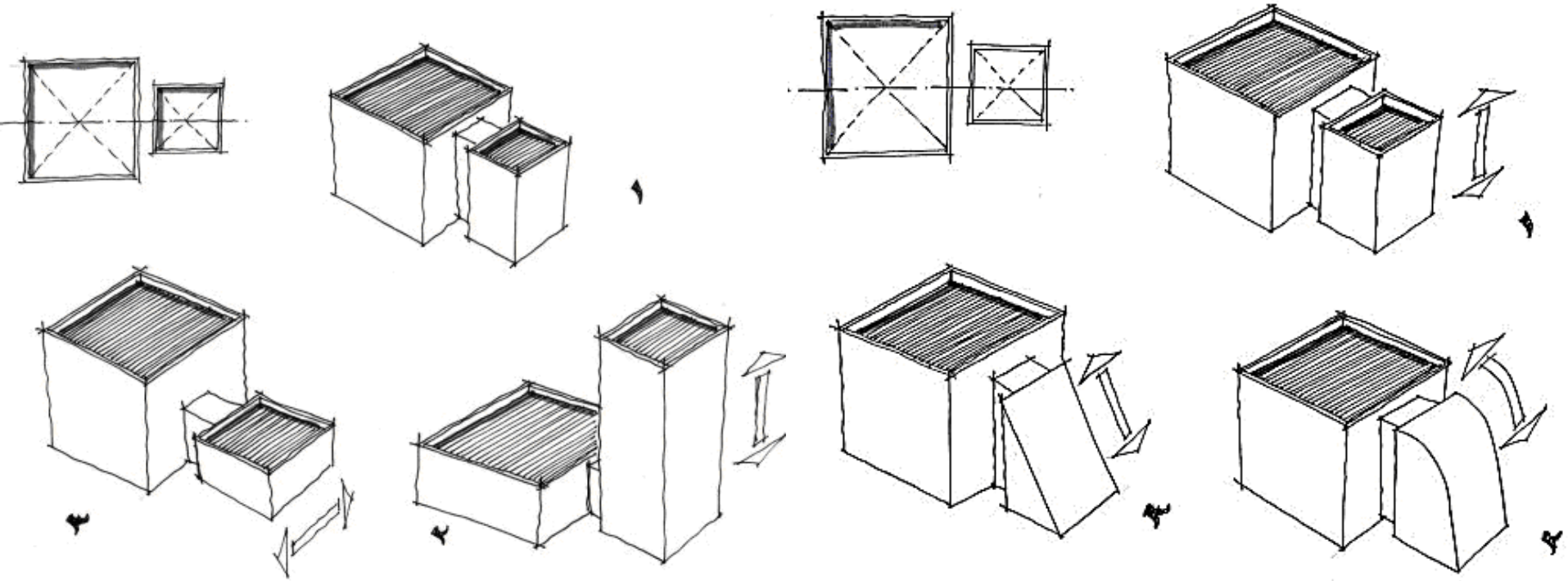
**Repetition of the same shape with different sizes**



شکل التواجد  
في التواجد

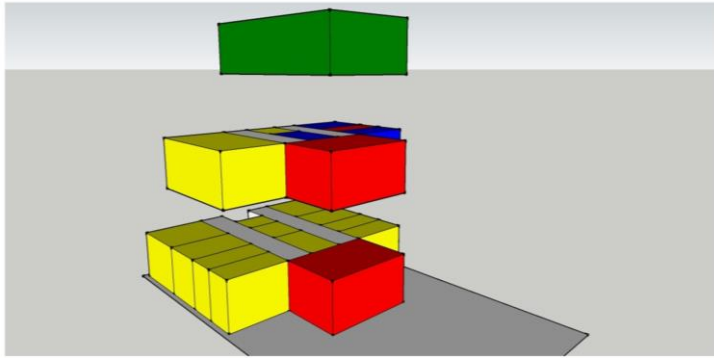
**Combination of different shapes and sizes**

# C-Study of Form

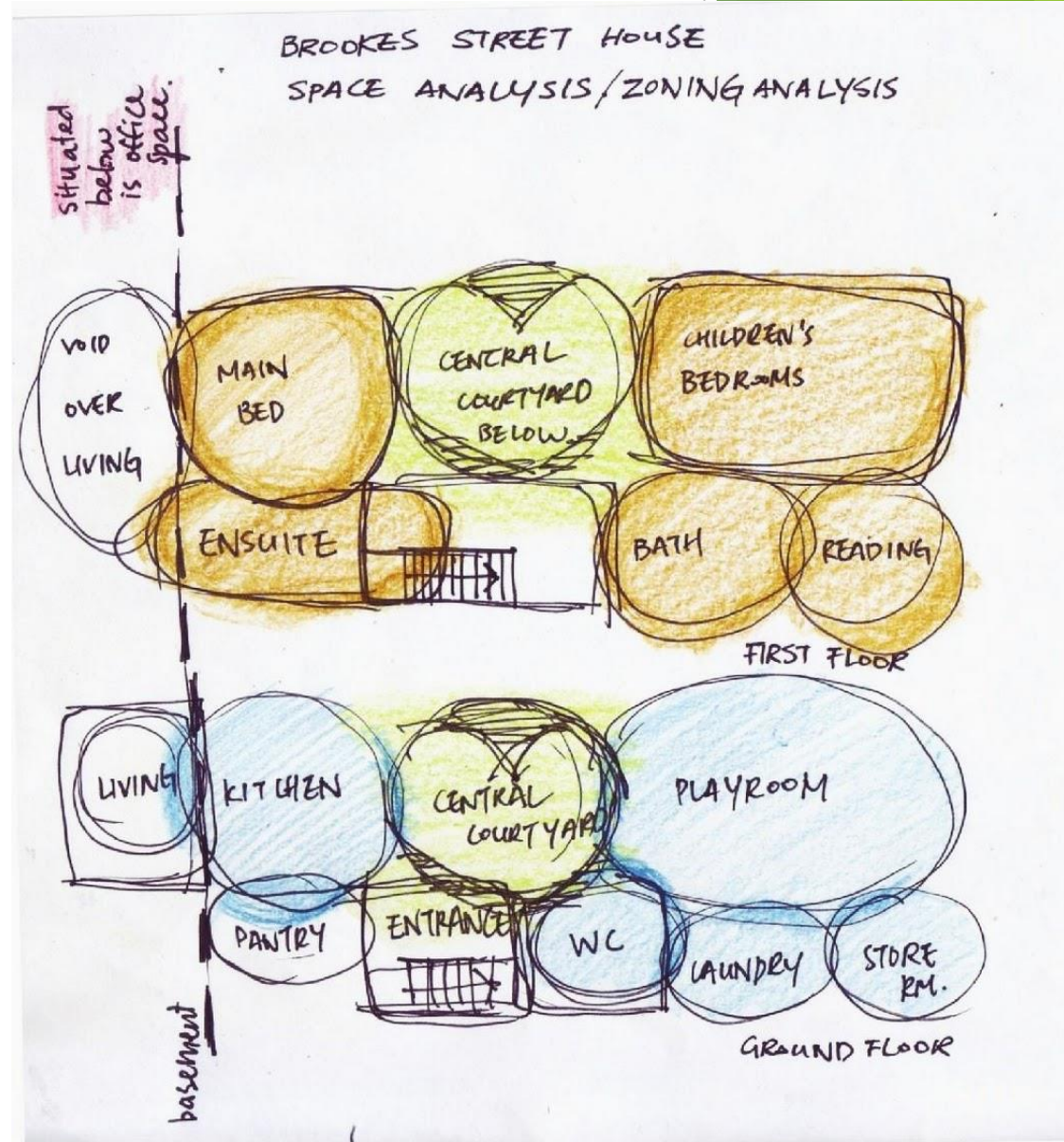
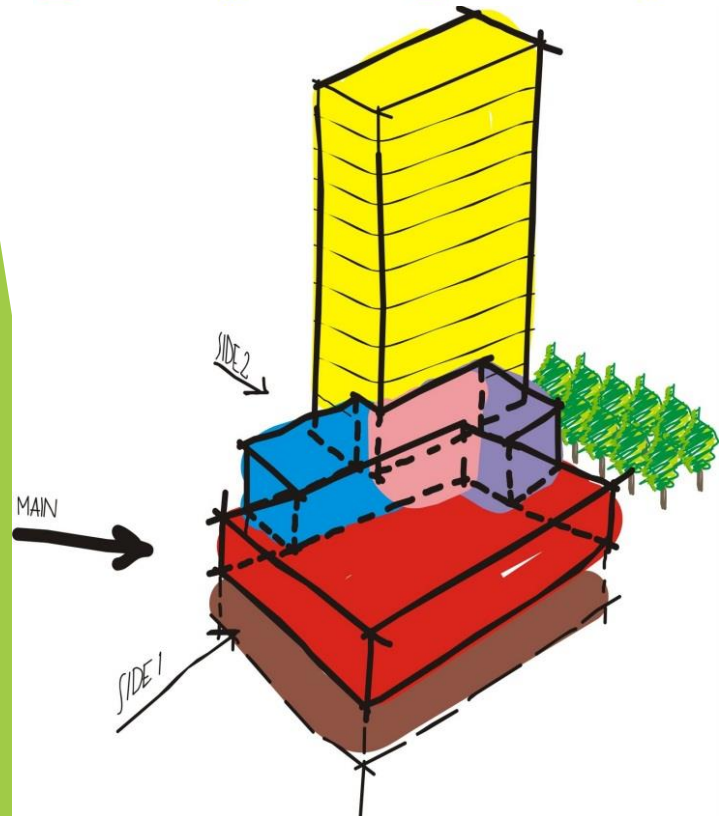




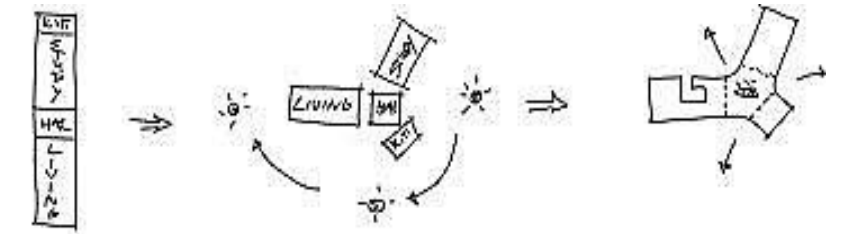
# \* Integration between Form & Zoning : (Vertical Zoning :)



Public Private Semi Publik Servis



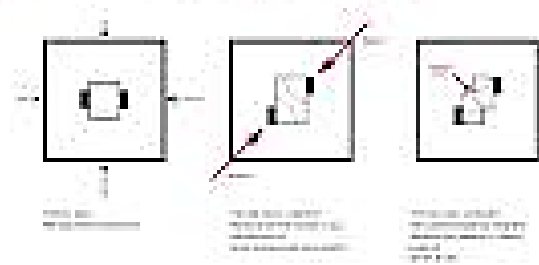
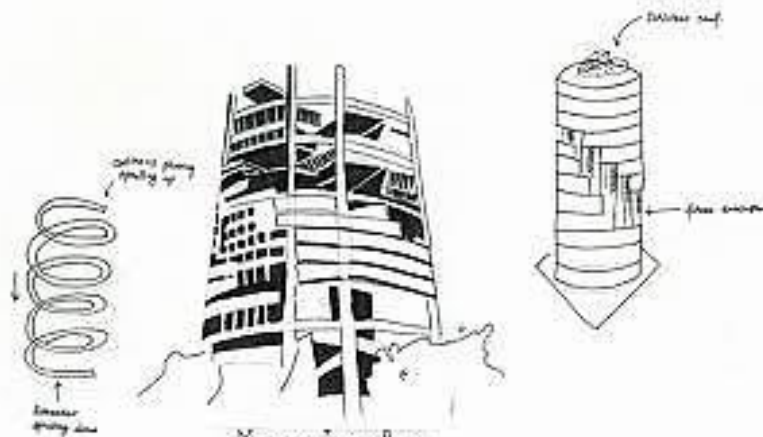
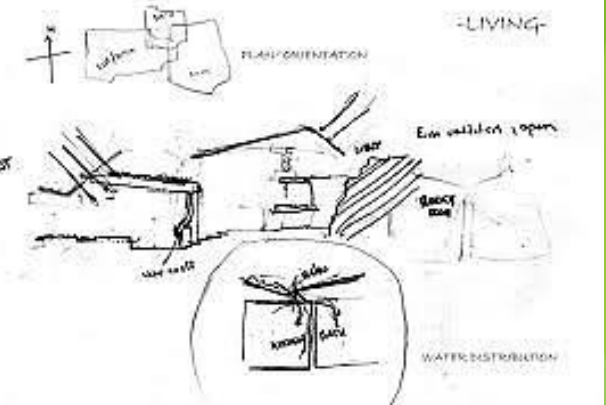
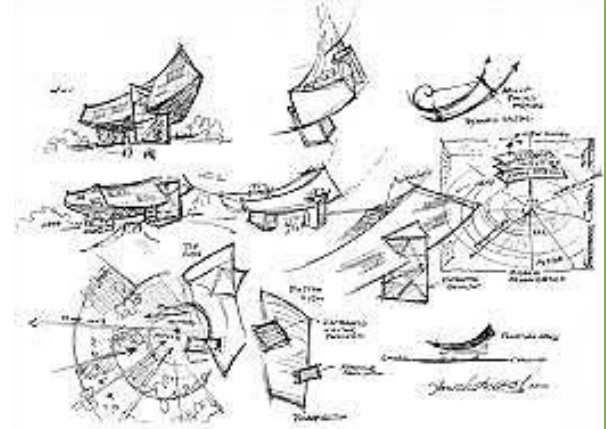
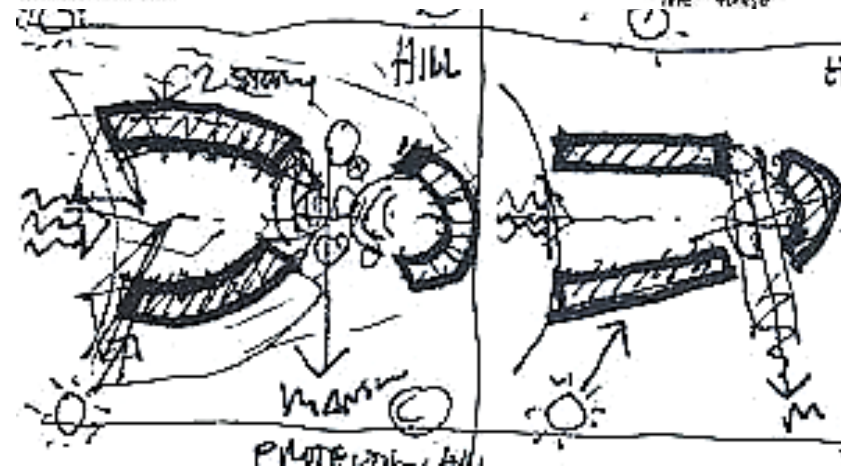
# Generating Concepts and Design Ideas



PROGRAM  
GROUND FLOOR

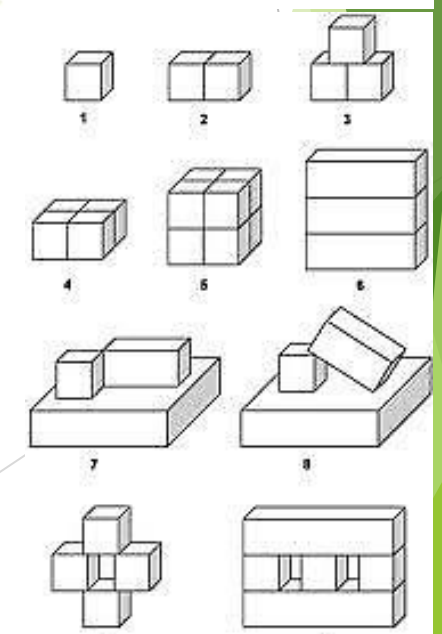
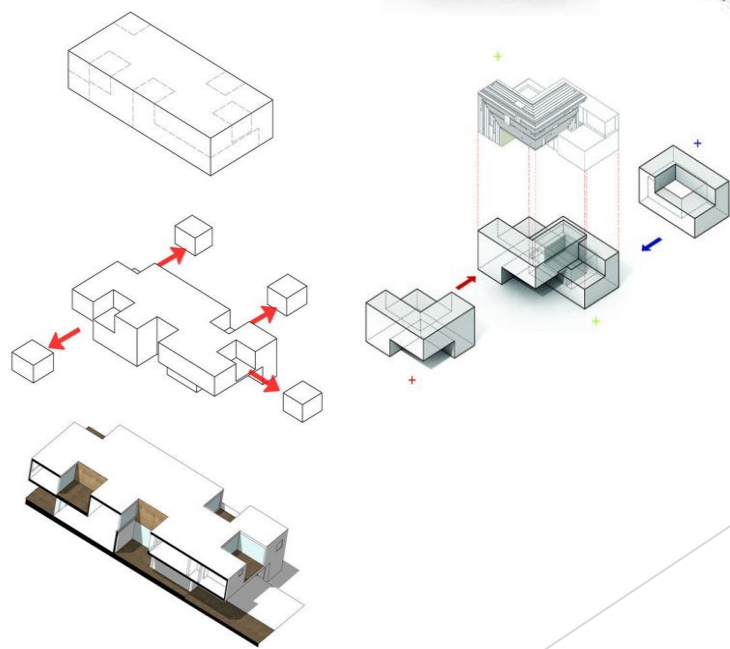
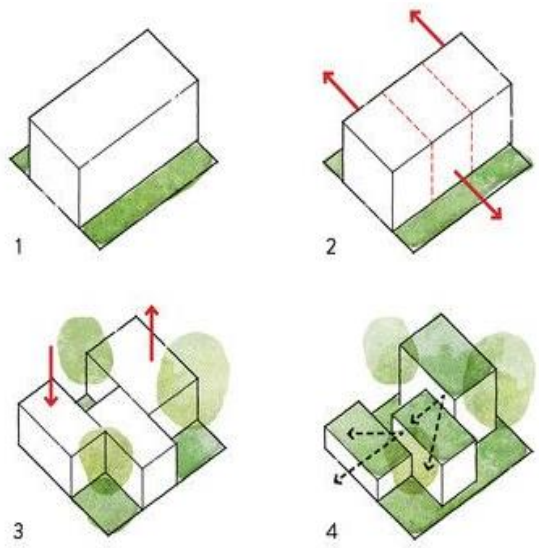
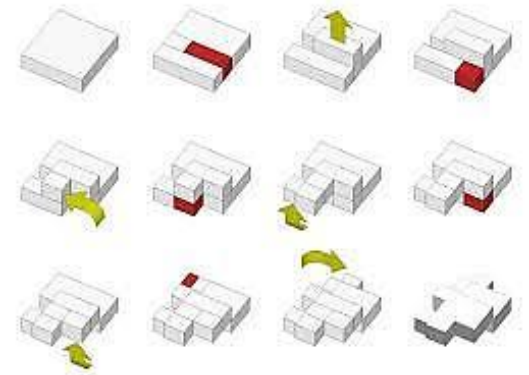
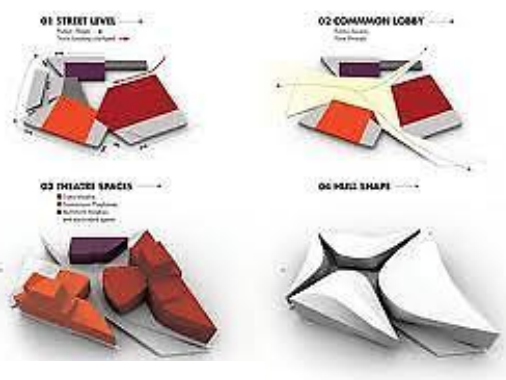
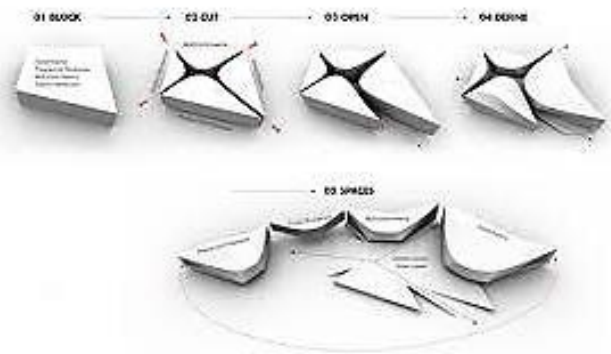
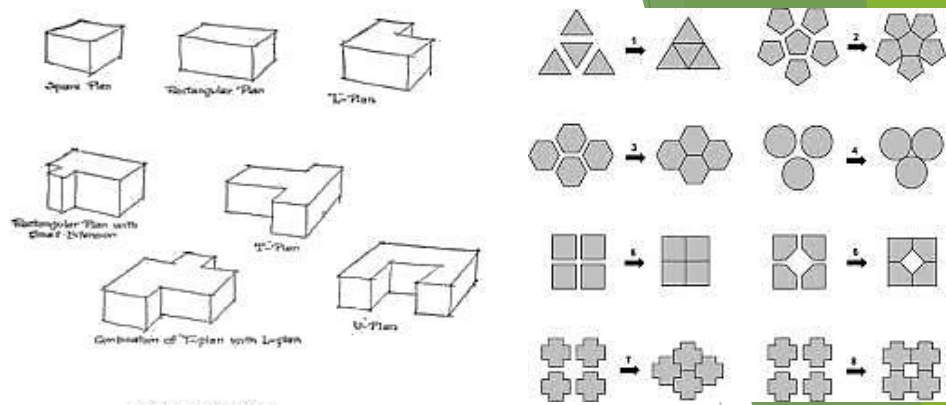
ORIENTATION  
ON LIGHT & VIEWS

CENTRAL HALL  
AS HUB OF  
THE HOUSE





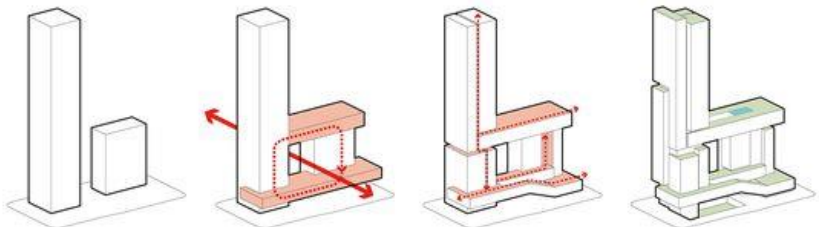
# Addition, Subtraction, Repetition









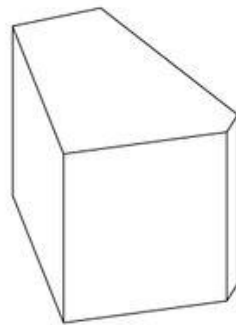


主要功能体块  
Main Program Volume

公共及共享功能连接两座主塔楼  
Link Two Towers with Public Space

分解体量以回应不同层面的城市尺度  
并将公共空间链接至不同层次  
Breaking the Massing to Respond Different Urban Scale, and Extend Public Space Into Different Levels

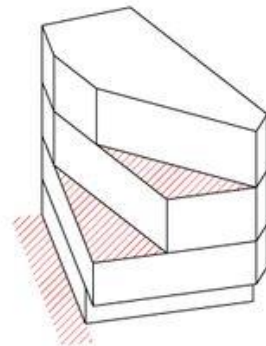
多维绿色办公复合体  
Create Multi-level Green Office Building



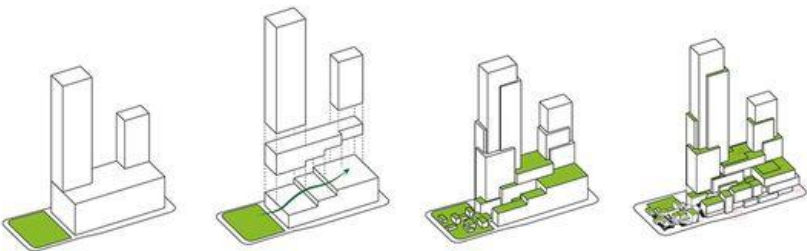
Gabarit maximum  
Hauteur 33m



Division en 3 gabarits  
11m / 22m / 33m



Décalages  
Toitures et terrasses

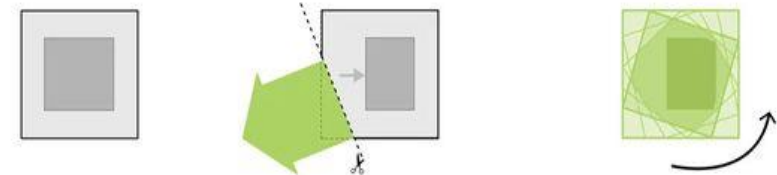
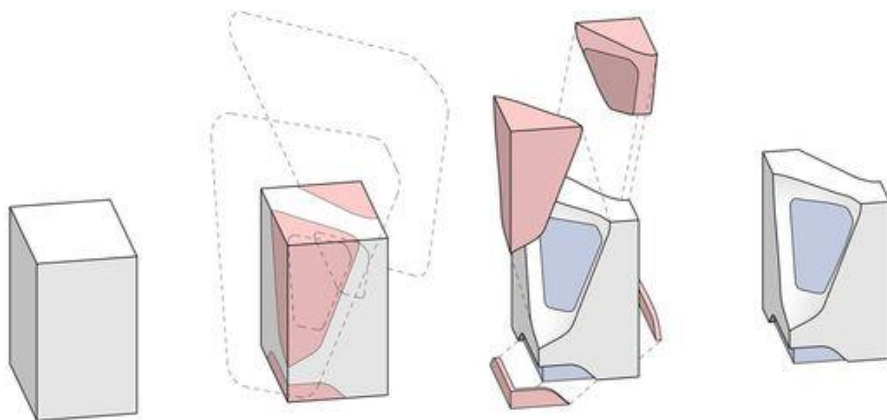


Texture in accordance with the design conditions, organization of overall volume and typical mass of programme.

Vertical integration of towers, retail street and shopping center. Creating dynamic high-density mixed-use.

Articulation of massing and integration of architecture and landscape to offer the penetration of green areas throughout.

Formation of an integrated, multi-layered vertical community with associated 3-dimensional spatial experience.



典型的办公大楼  
Typical Office Tower

向世界开放  
Open To World

螺旋绿化  
Spiral Movement

