



Benha University
Faculty of Engineering
Department of Architectural Engineering

AE 1111 | Architecture Design (1A) | Lecture3 Architectural Sections



DR. MONA SHEDID
*ASSOCIATED PROFESSOR , FACULTY OF ENGINEERING,
BENHA UNIVERSITY*



Lecture 3

1. Introduction

- Multi-View Drawings

2. What is Arch. Section?

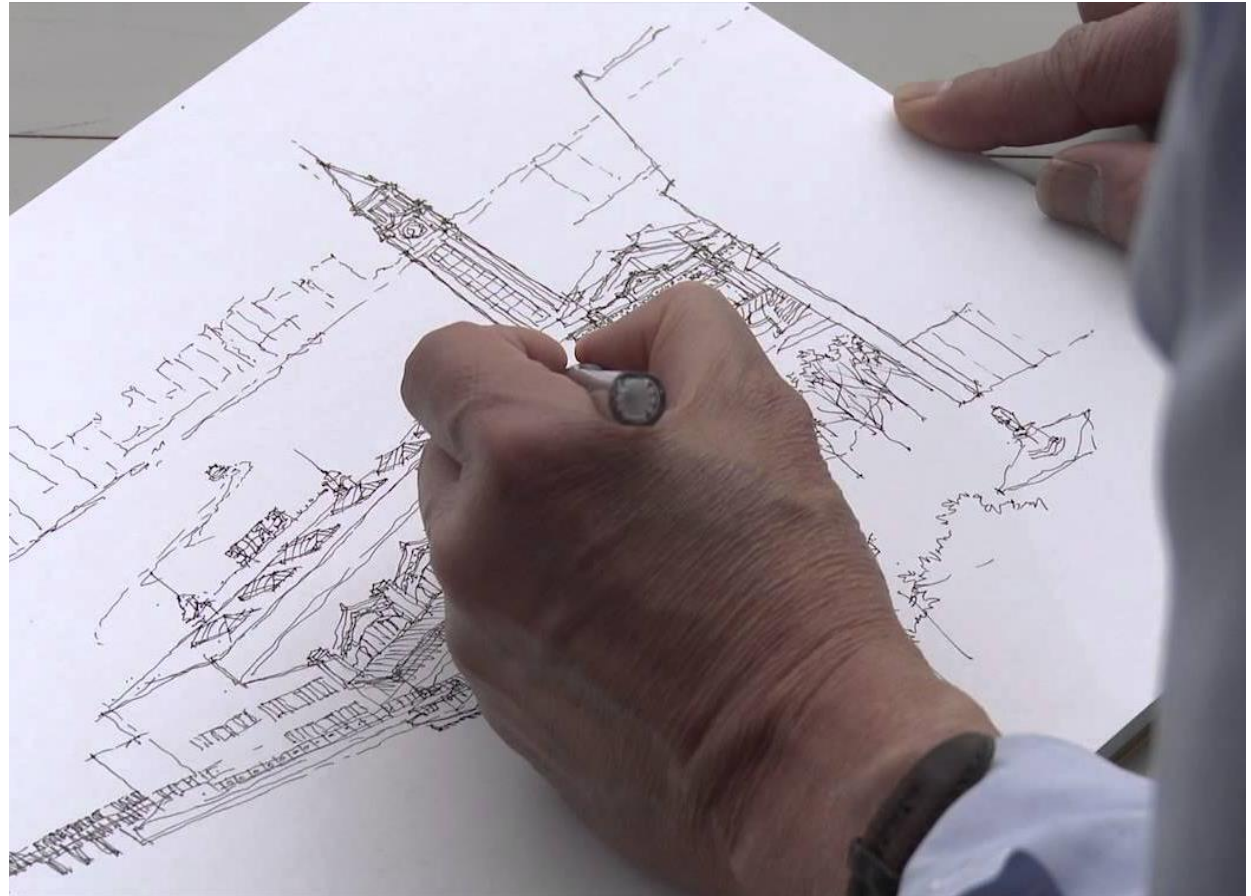
- Building Section
- Section Cut
- Section Mark
- Scale & Detail

3. How to Draw an Arch. Section?

- Steps
- Examples
- Line Weights & Types

4. Classwork # 2

5. Homework# 3



Architectural Sections

1



INTRODUCTION

MULTI-VIEW DRAWINGS

└ Plans
└ Layout } **Horizontal Views**

└ Elevations
└ Sections } **Vertical Views**

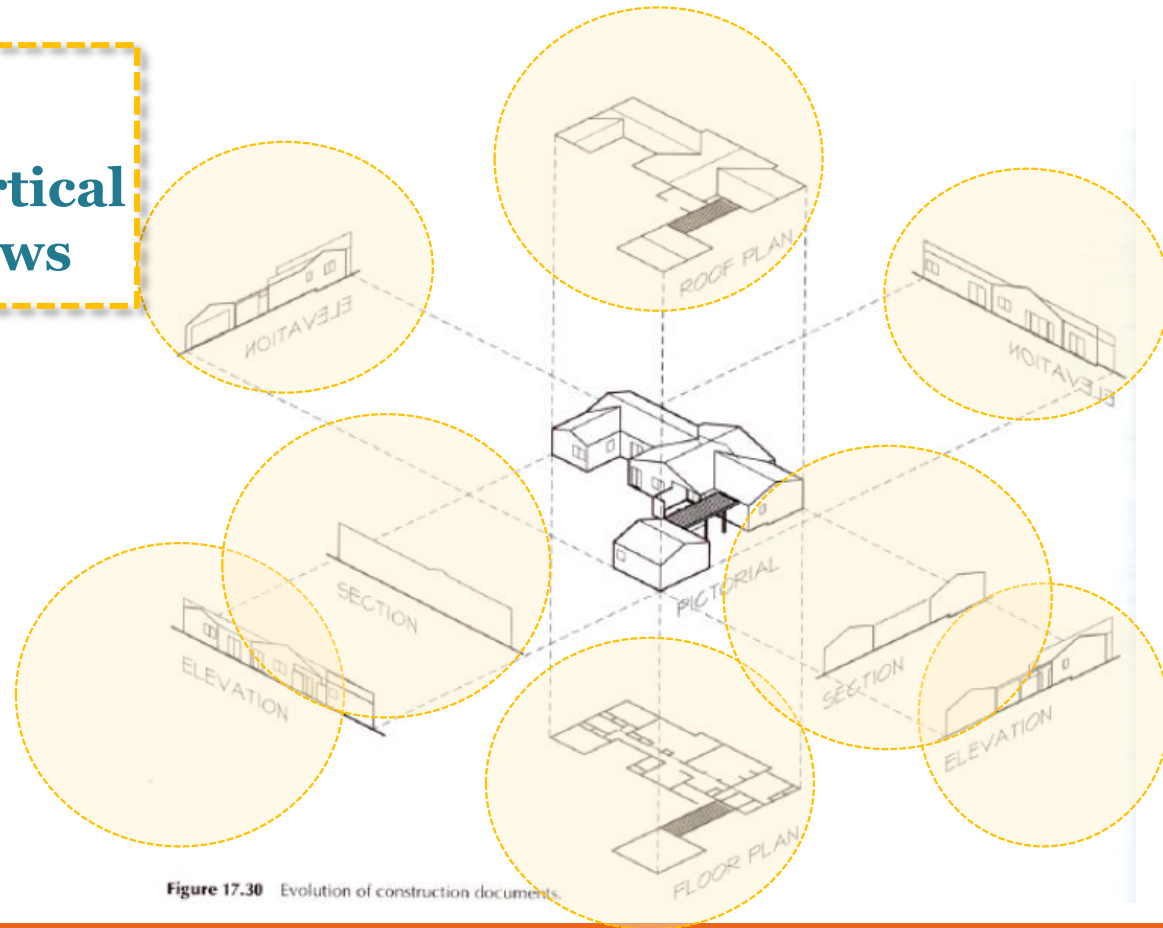


Figure 17.30 Evolution of construction documents

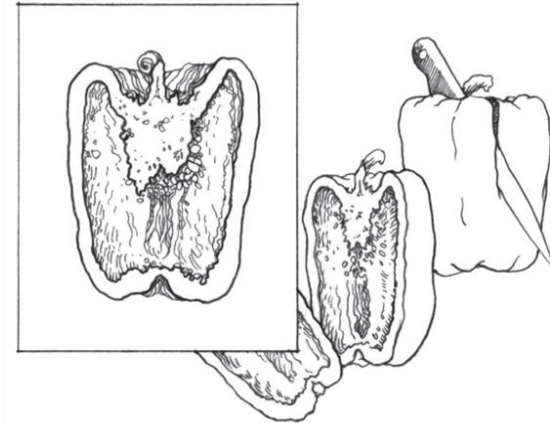
2



WHAT IS AN ARCHITECTURAL SECTION?

BUILDING SECTION

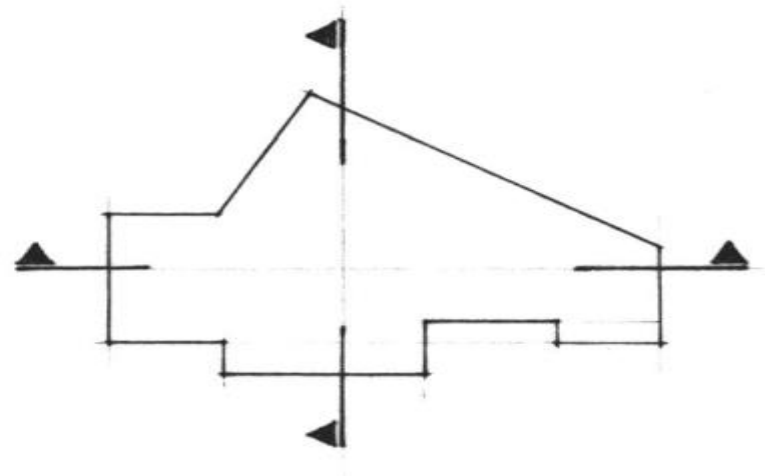
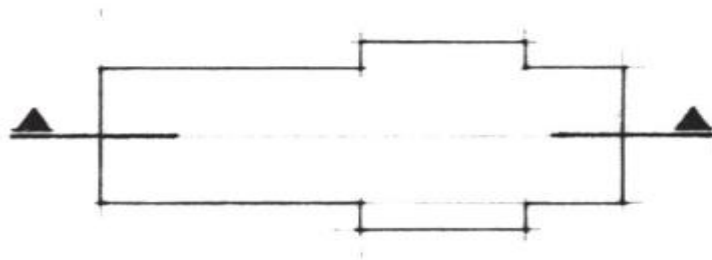
A section is an orthographic projection of an object as it would appear if cut through by an intersecting plane.



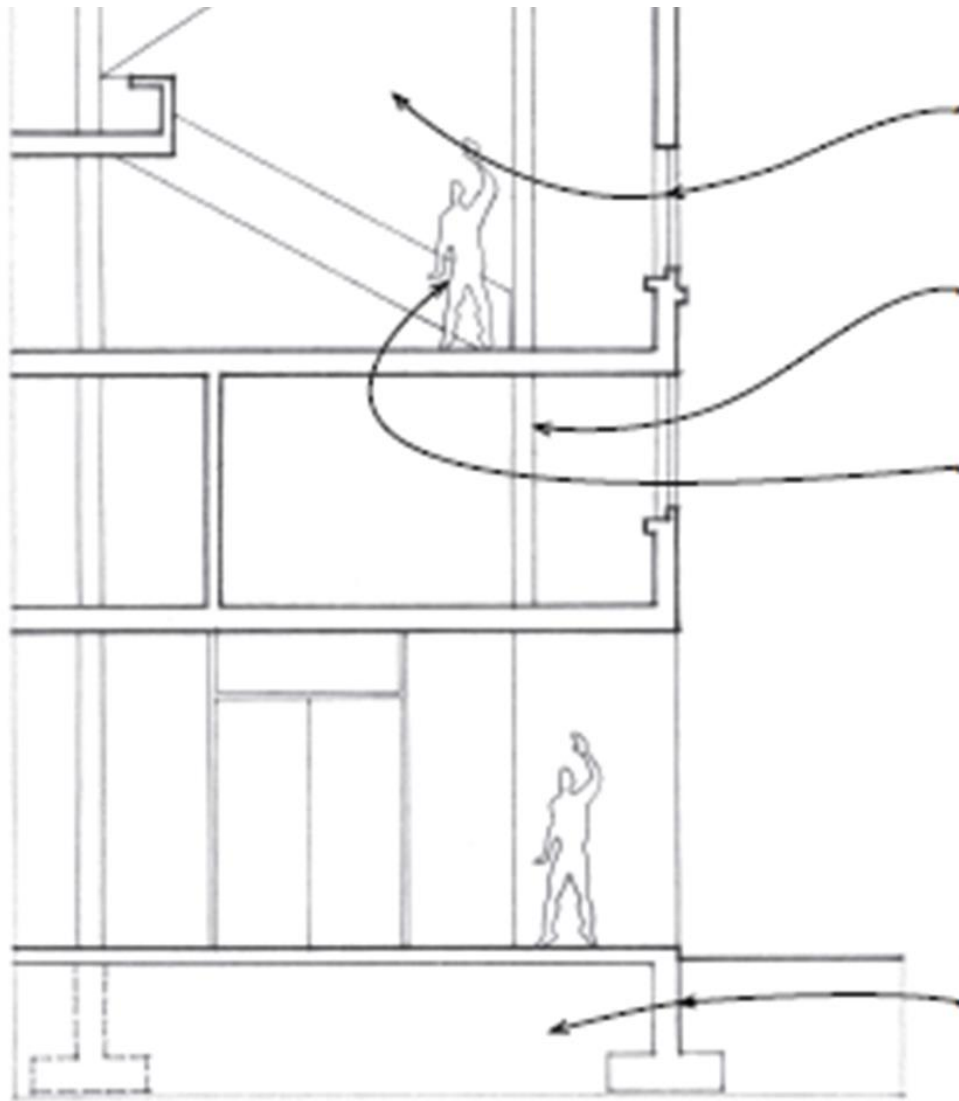
- A building section represents a vertical section of a building.
- It reveals the shape and vertical scale of interior spaces, internal material, composition, furniture.

SECTION CUT

- Building sections should be cut in a continuous manner, parallel to a major set of walls.
- For buildings having a symmetrical plan, the logical location for a section cut is along the axis of symmetry.



SECTION CUT



Cut sections through window openings and doorways

Never cut through freestanding columns.

Human figures in building sections to convey the scale

Cut sections extend to the soil mass

SECTION CUT

As with floor plans, it is critical to distinguish between solid and void and to discern precisely where mass meets space in a building section.

➤ So we must use a hierarchy of line weights.



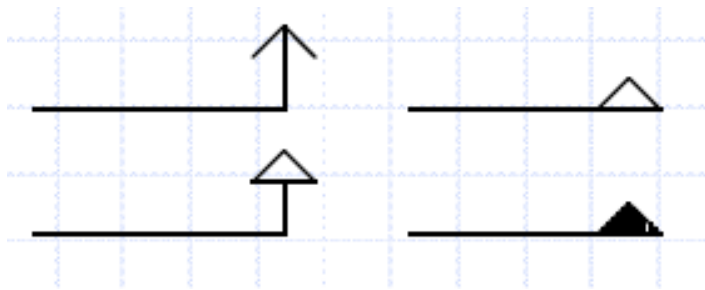
Here the section drawn with a single line weight.



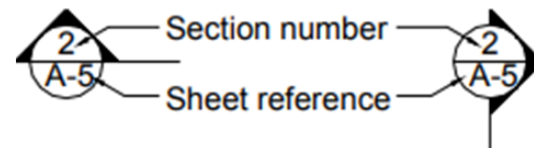
The heaviest line weight profiles the shapes of elements cut in

SECTION MARK

- A section call-out consists of two circles, one on each end of the cutting plane line. It is permissible to omit one of the circles and replace it with a simple arrow.
- An arrow at the end of each line points and it shows the direction of the section view.



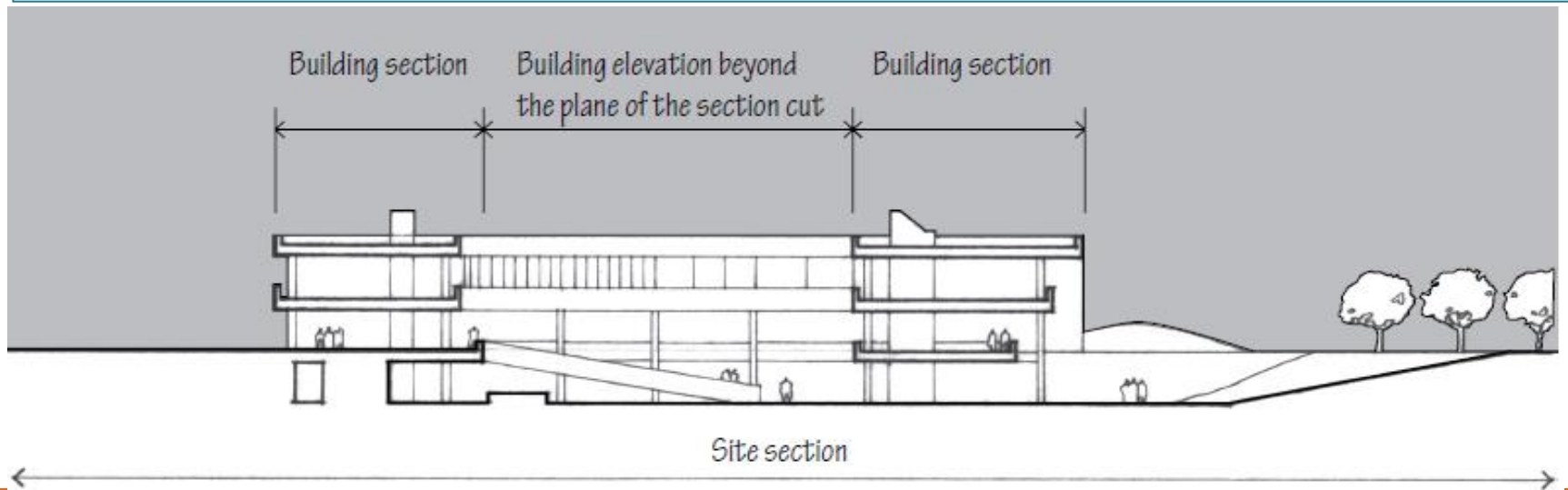
Simplified section symbol on one end



Section symbol

SCALE & DETAIL

- Section drawings often extend outward to include the context of a building's site and environment.
- In addition, section drawings can illustrate the relationship between the interior spaces of a building and adjoining exterior spaces.



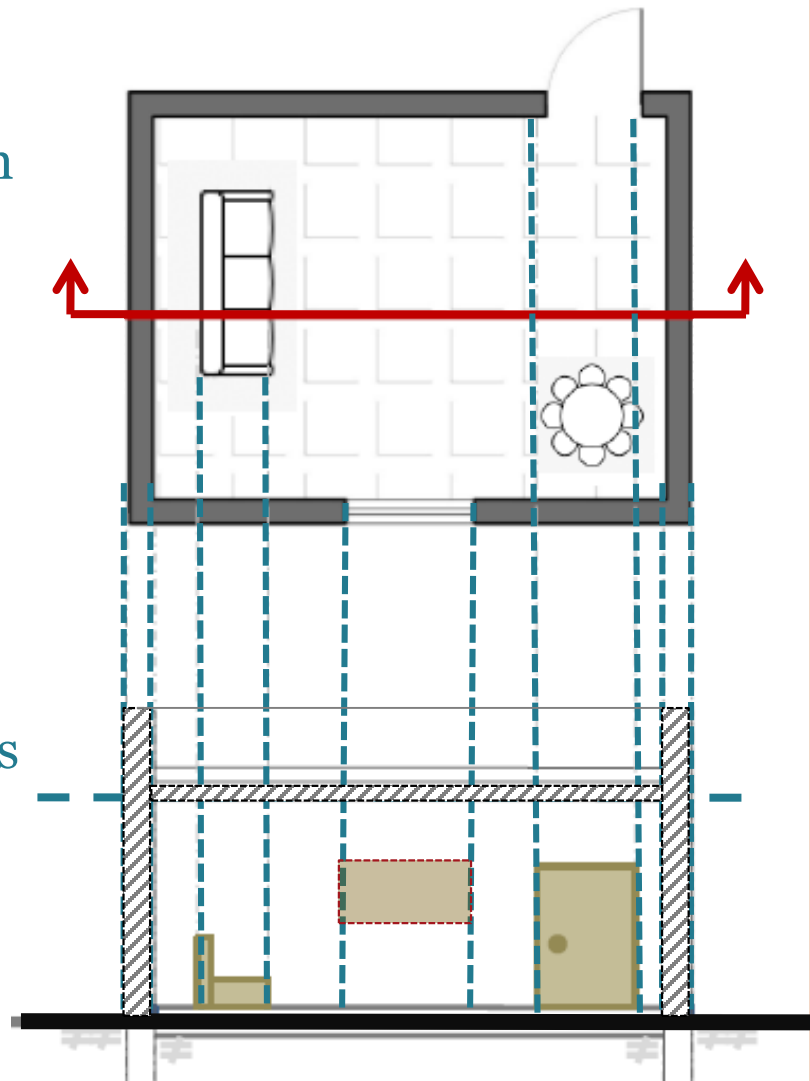
3



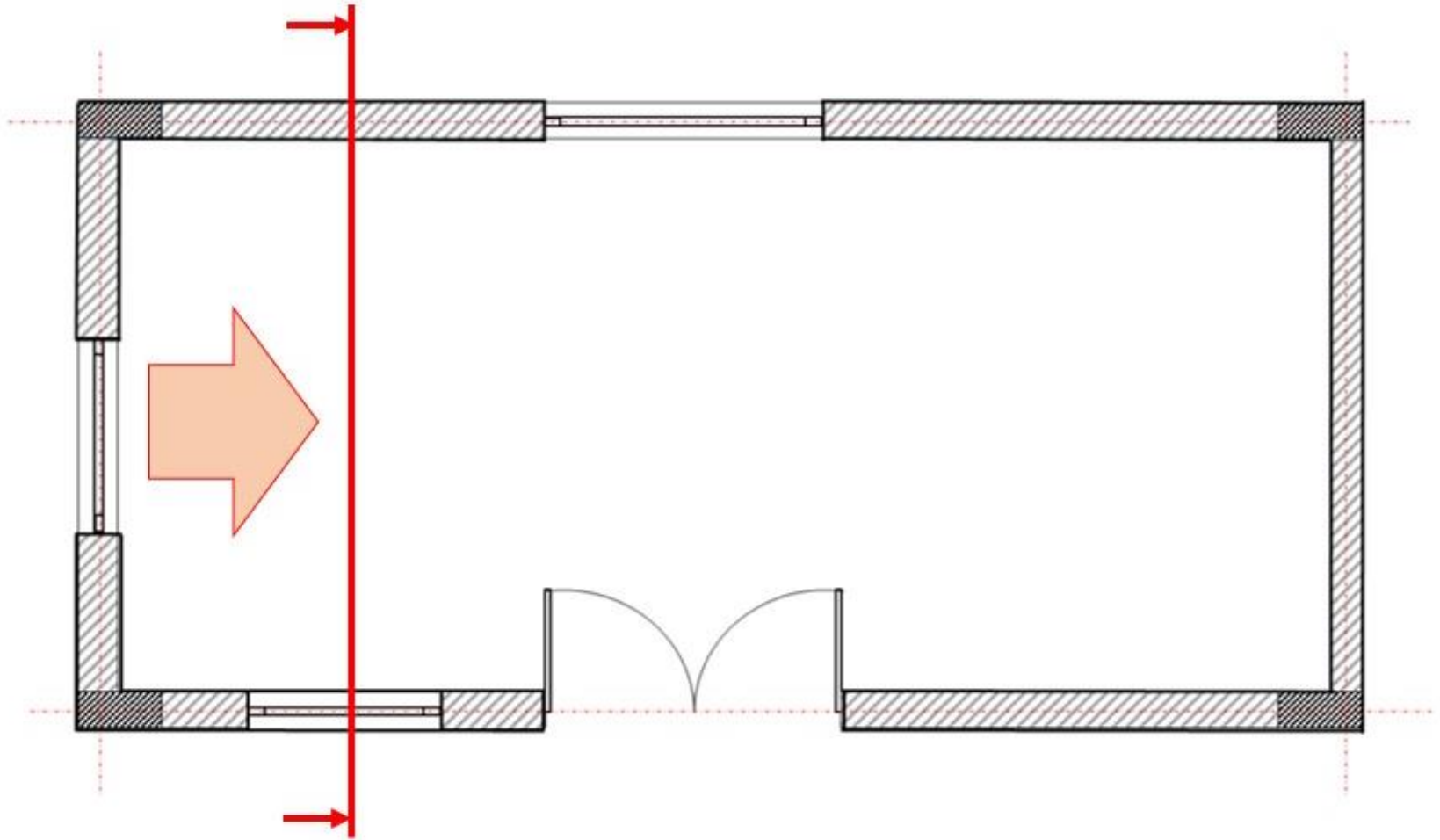
HOW TO DRAW AN ARCHITECTURAL SECTION?

Steps

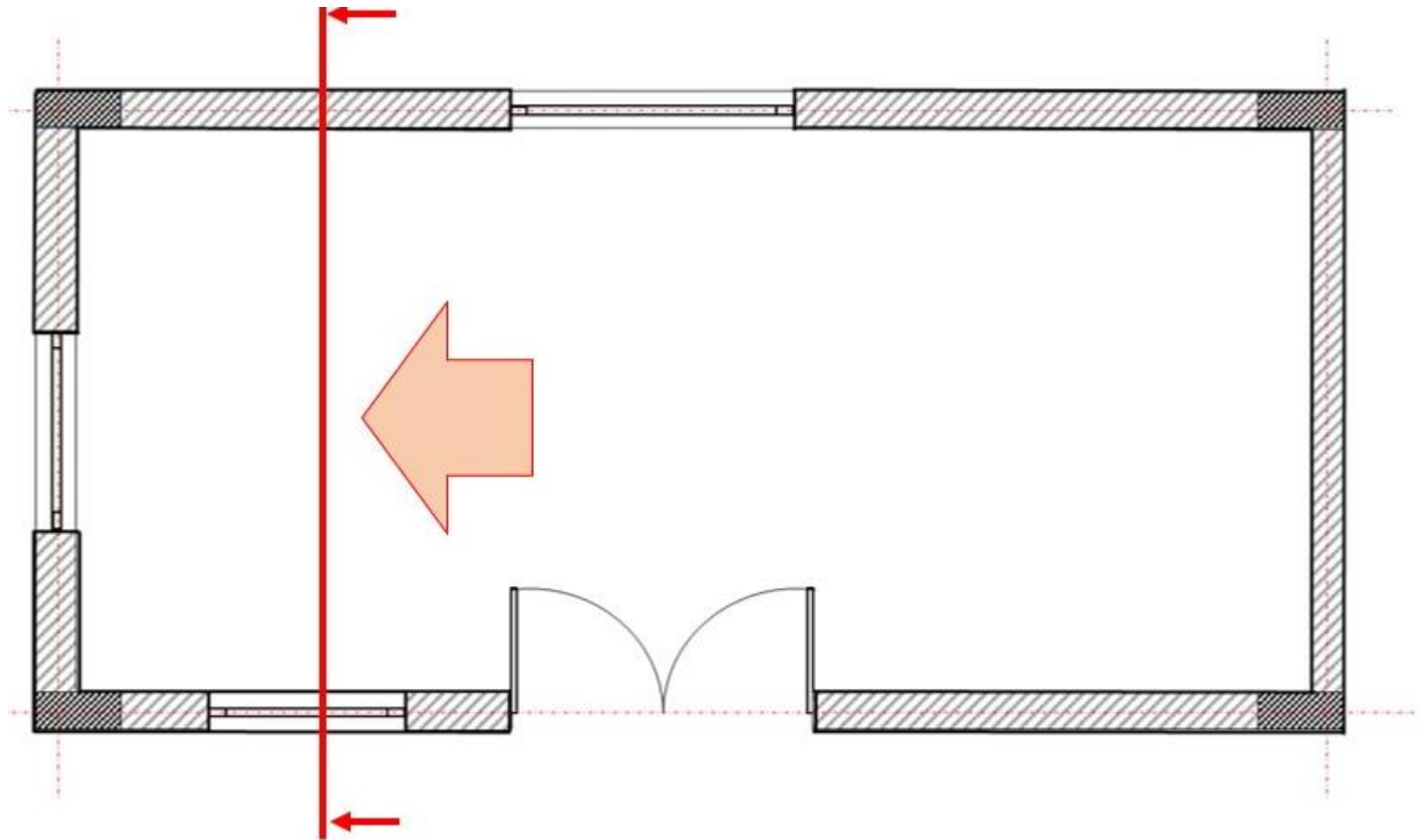
- 1) Decide the cutting plane
- 2) Depict the direction of the view with arrows
- 3) Take projection lines on G.L.
- 4) Add wall lines.
- 5) Add floor and roof finishing details
- 6) Take construction lines for openings
- 7) Take construction lines for details
- 8) Hatch the walls.



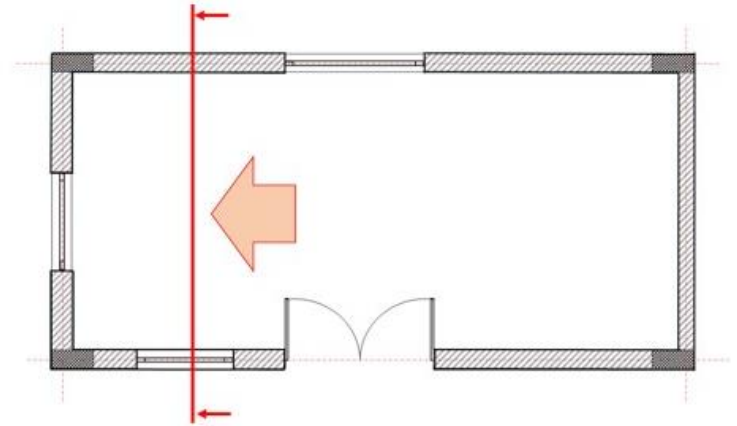
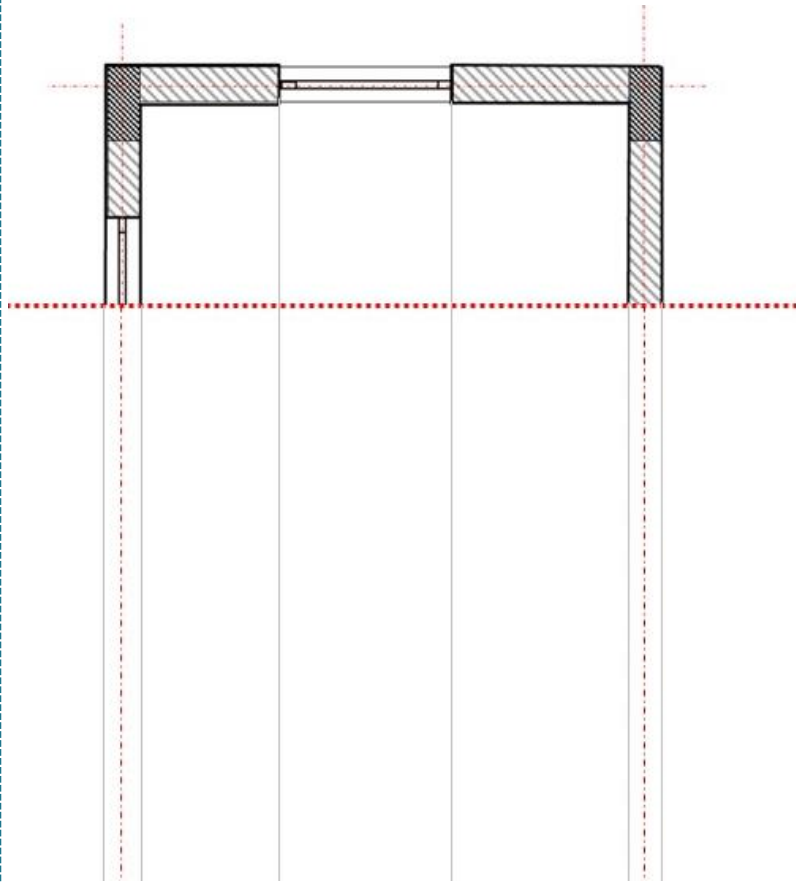
STEP (1): SECTION LINES & ARROWS



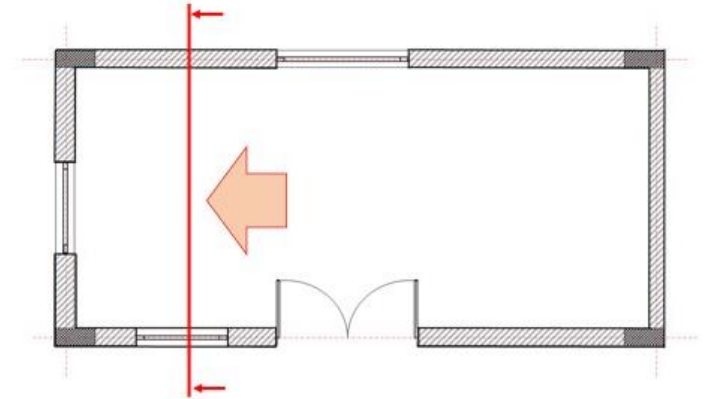
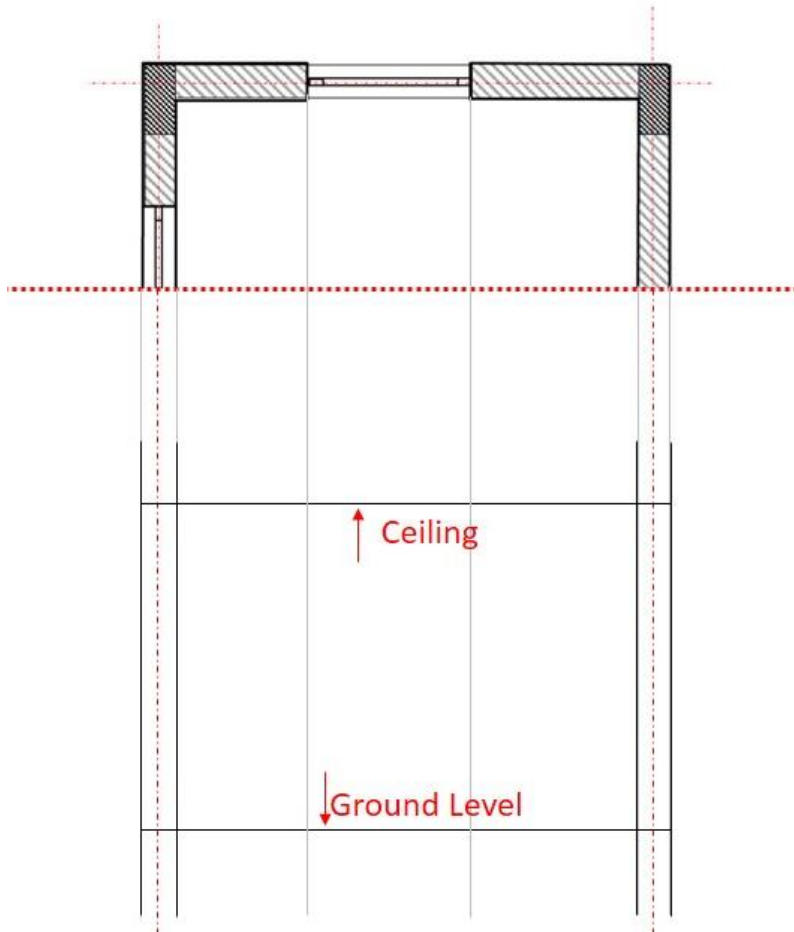
STEP (1): SECTION LINES & ARROWS



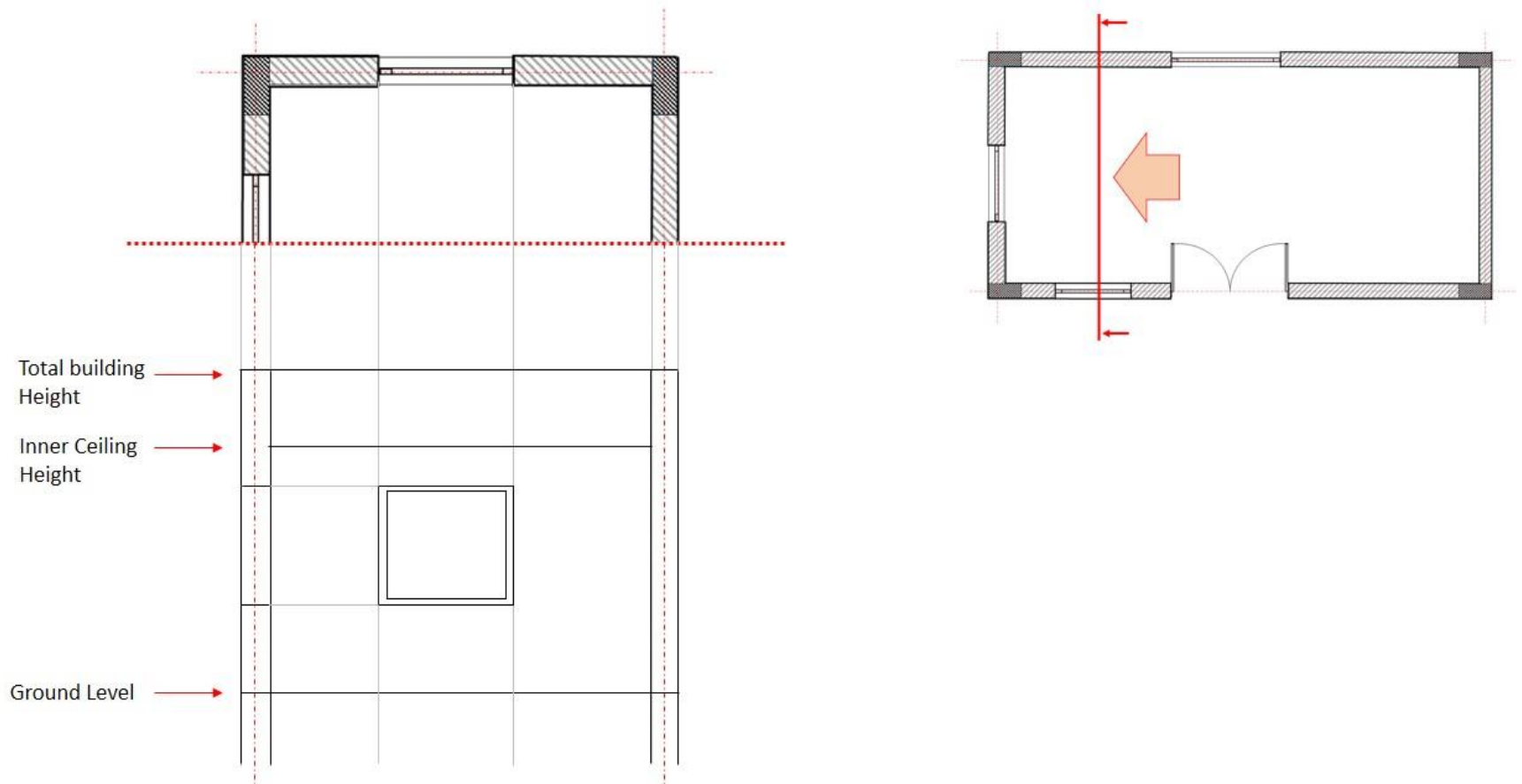
STEP (2): DRAW THE PROJECTION



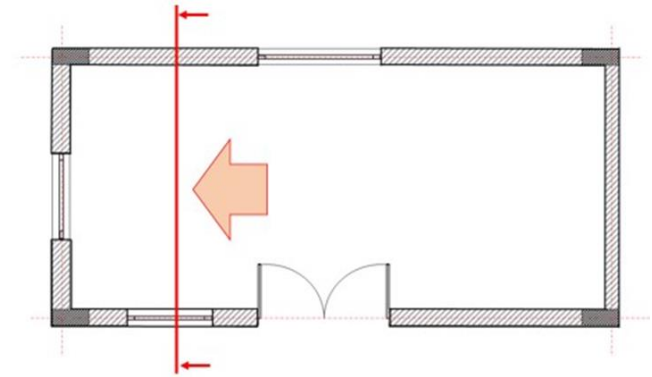
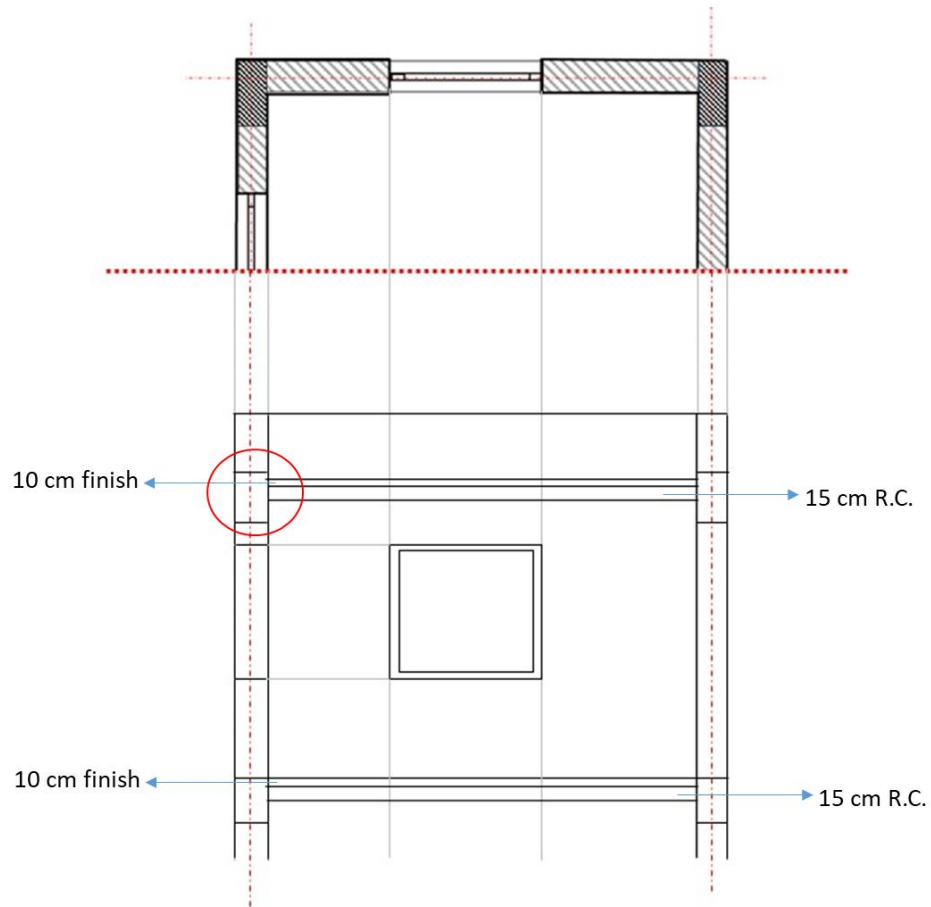
STEP (3): ADJUST THE SEC.HEIGHTS



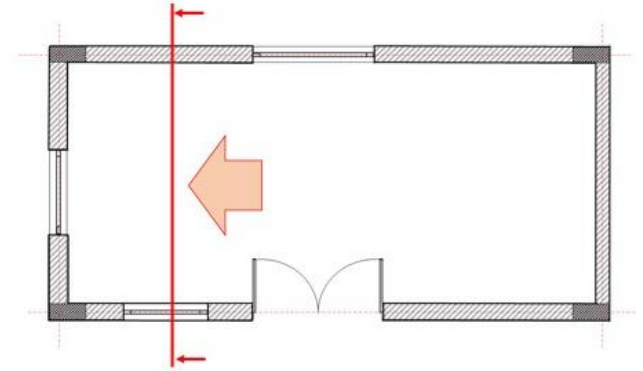
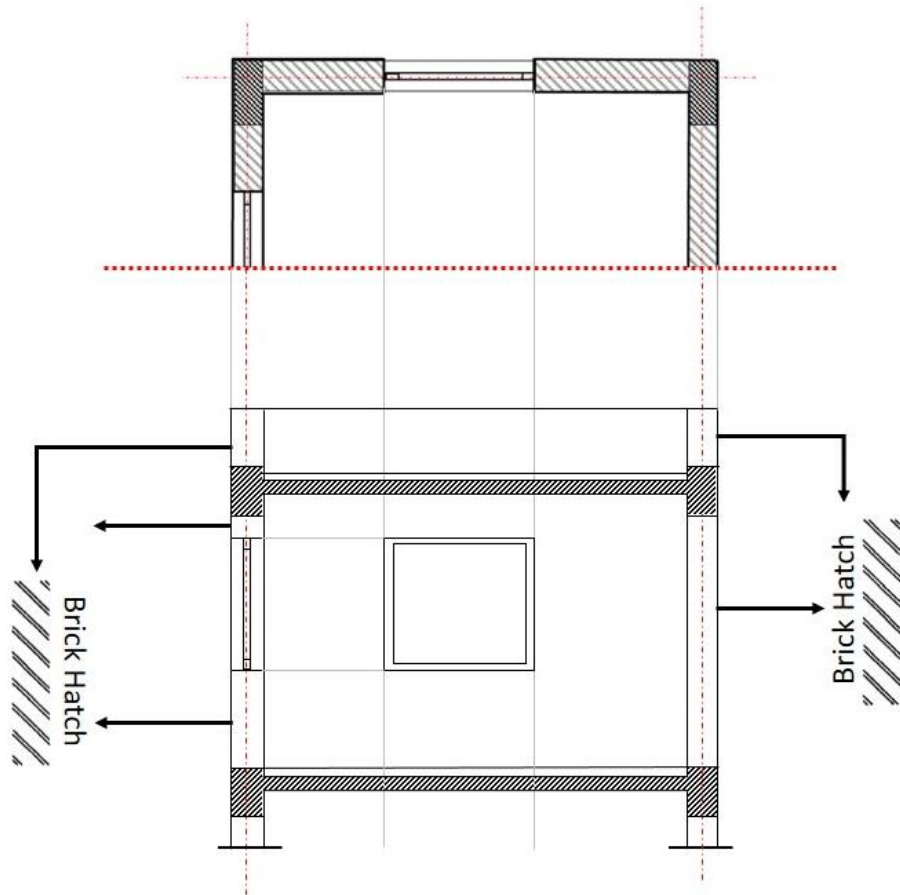
STEP (4): DRAW THE CUT THROUGH OPENINGS



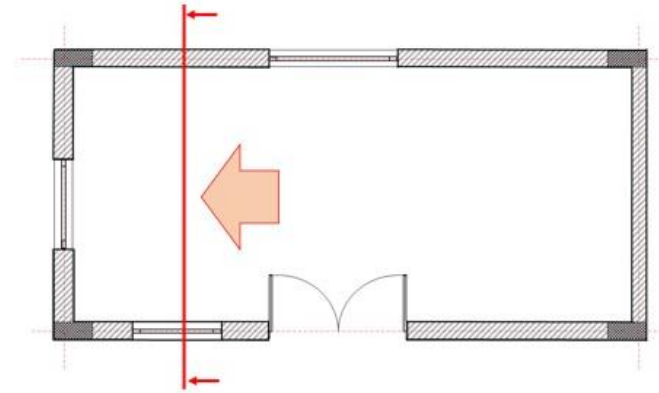
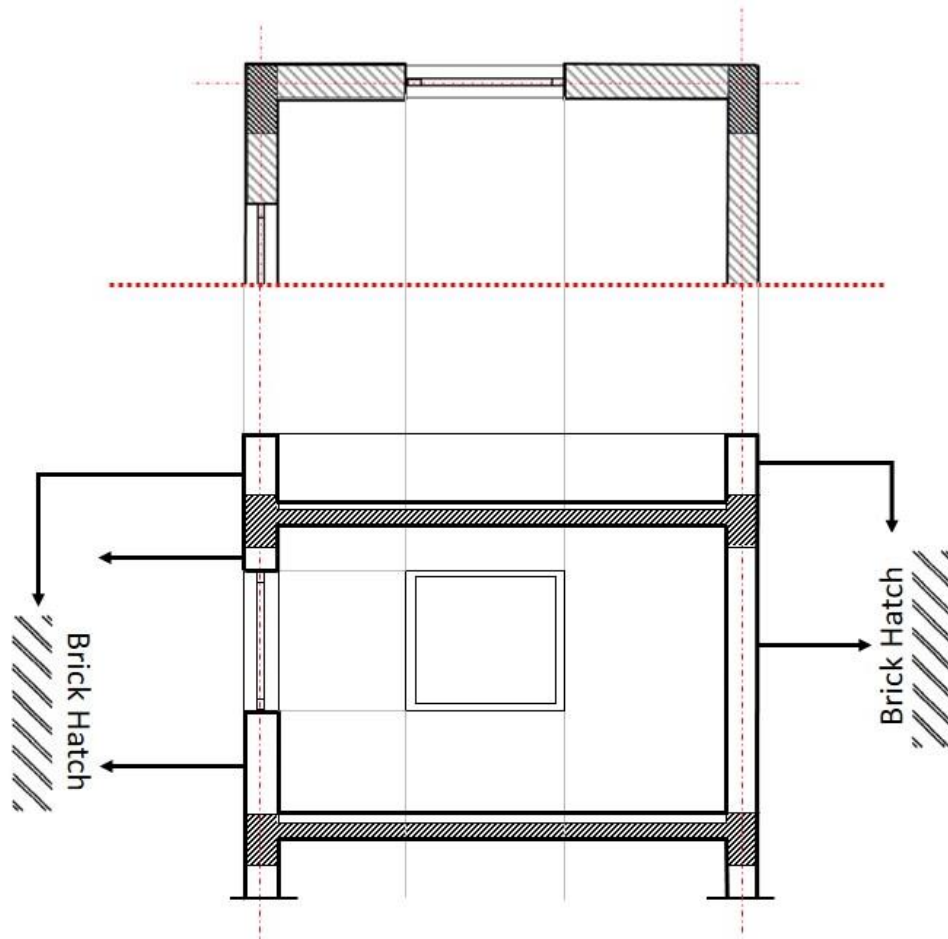
STEP (5): DRAW SECTION LAYERS



STEP (7): ADD LAYERS



STEP (7): ADD LINEWEIGHT



4



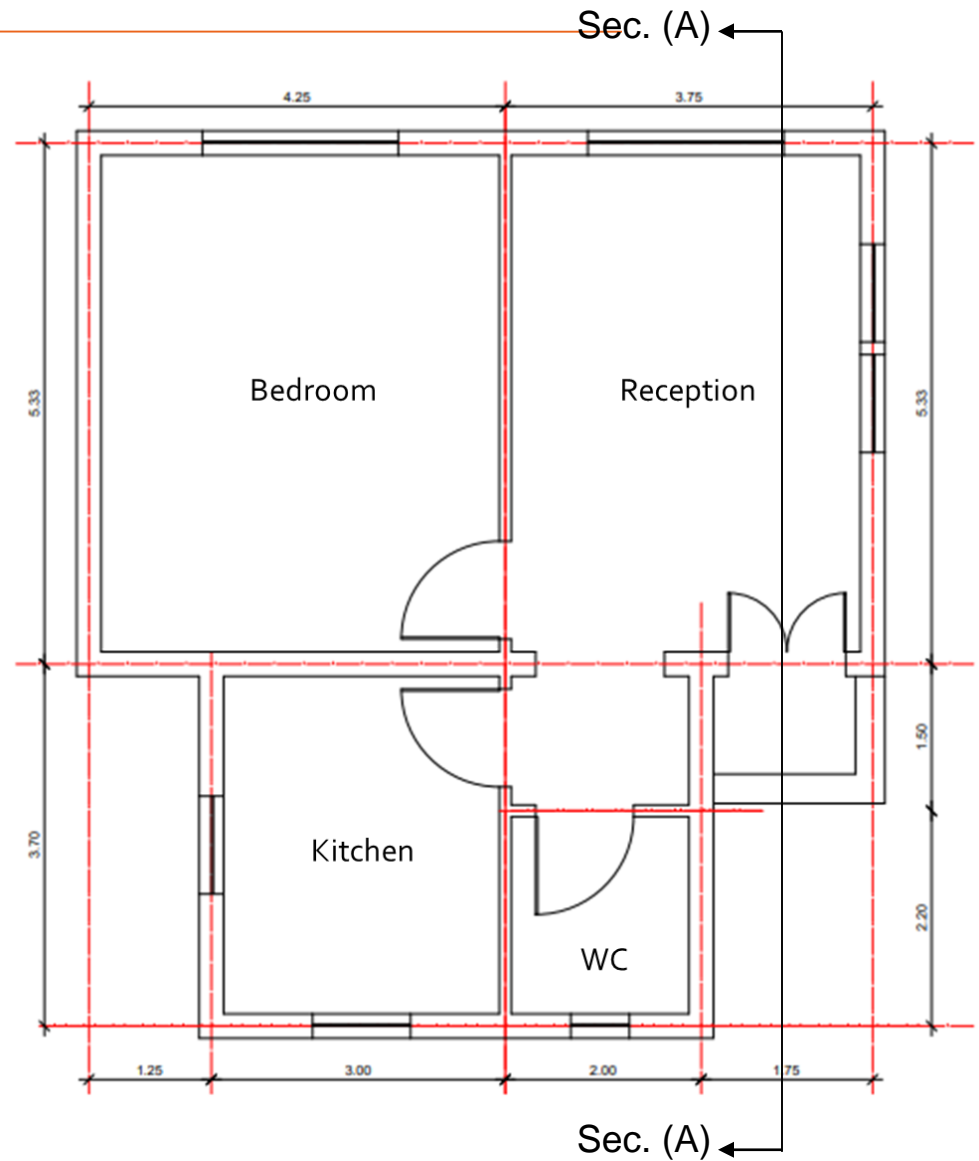
CLASSWORK#2

CLASSWORK#2

The figure below represents a plan for a small chalet.

You are required to:

1. Draw the section, (scale 1/50)



5



HOMework#3

HOMEWORK # 3

Each student is required to redesign the plan of his/her own bedroom, (scale 1/50)

REFERENCES

The references to multiple sources are text & figures
(sketches, drawings, pictures, photos,..etc.)

**ALL THE RIGHTS BELONG TO ORIGINAL
AUTHORS**

ANY QUESTIONS???

THANK YOU...