Department of Computer Science and Engineering (CSE)
Faculty of Sciences and Engineering
Semester: (Fall, Year:2021), B.Sc. in CSE (Day)

Course Title: Engineering Drawing
Course Code: CSE 208
Section: 203DA

Lab Project Name: 3D House (Exterior) Design

Student Details

Name	ID
Joy Pal	201002418
Jakir Hossain	201002050

Submission Date : 30th December, 2021

Course Teacher's Name : Mr. Montaser Abdul Quader

Lab Project Status

Marks: …… **Signature: .....**

Comments: ..... **Date: .....**

Table of Contents

Chapter 1
Introduction

1.1 Introduction

In the present times technology is advancing by leaps and bounds in every sector. Construction industry is no exception. Building of houses and structures should also see the same light.

In the early times which marked the beginning of human settlement, the houses were built by using stones. Later, bricks and mortars were used. In 1853, Francois Kanye, a French industrialist for the first time, used a new type of material called reinforced concrete to build his house. Since then, most of the buildings and structures were constructed using the same method introduced by him which continued for more than 150 years or so. If there is any fault occurs then the construction become useless also it took more time to design a house in paper and pencil method. But now it's is very easy and efficient way to design any hour of realistic view.

In this project, I have created a 3D HOUSE design using AUTOCAD software.

1.2 Design Goals/Objective

- To provide the high level residential and commercial planning and architecture design.
- Build beautiful cities at low cost
- Build in a short time
- To build a house with more capacity in less space

Chapter 2

Design/Development/Implementation of the Project

2.1 Design and Development Software or Kit.

Working with AutoCAD 2022 and previous editions of described software relies on typing sequential commands which combinations enable formation of the expected documentation. Similarly, to the older versions of this program, the access to the most available functions (often the most effective) is obtained by the com-mands typed using keyboard e.g. “LINE”, “ARRAY”, “COPY”, “EXTRUDE” etc. The advanced users prefer this system of working with AutoCAD because it makes working faster it does not require to take hands out of the keyboard by the operator.

Some of above-mentioned elements of AutoCAD 2022 interface are typical and well known for most of users and will not be further described. Anyhow some of them are new for the ribbon interface of the application or are important from the point of view of 3D modeling and thus they will be widely presented in next chapters of this book.

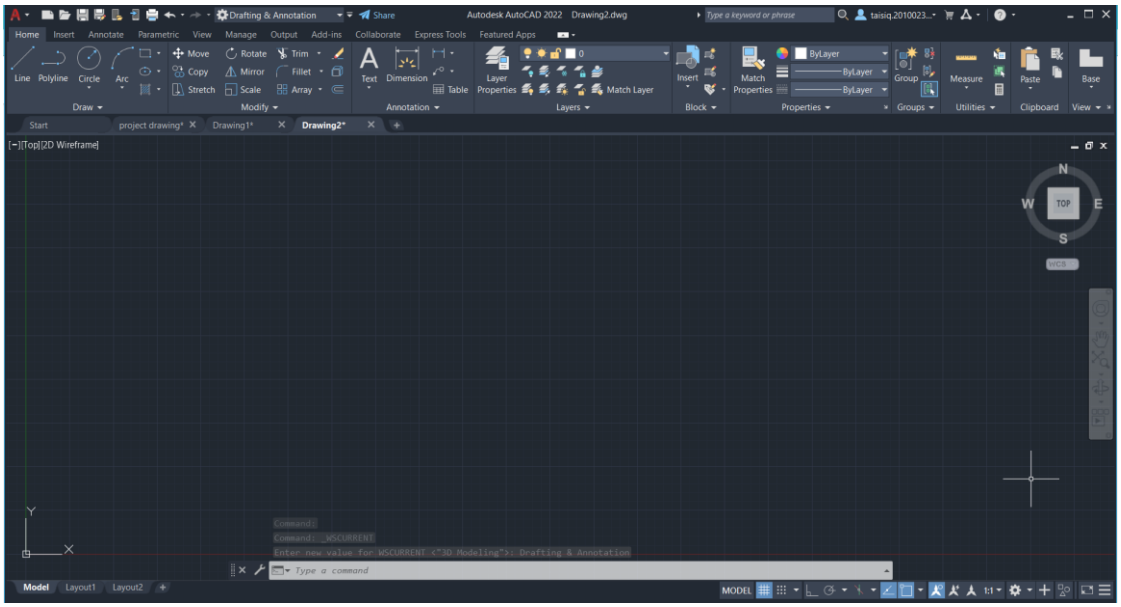


Figure 2.1.1: AutoCAD 2022 interface 2D Drafting Annotations.

AutoCAD 2012 enables switching between the different modes of interface:

• 2D mode (2D Drafting & Annotation) mostly applied for typical working with AutoCAD, giving full access to the major tools of the program (Fig. 1.1).

• 3D mode (3D Modeling), mostly applied for three-dimensional objects modeling. The most important mode from the point of view of the following monograph and it is assumed that most of readers will use this mode, although it is not necessary.

• Civil 3D.
• Planning and Analysis. Main elements of 3D Modeling interface are (Finkelstein, 2011):
• Ribbon, • Application button,
• Quick Access toolbar,
• Workspace drop-down list,
• Title bar,
• Help,
• Application Minimize, Maximize and Close buttons,
• Drawing Minimize, Maximize and Close buttons,
• ViewCube,
• UCS icon,
• Command line,
• Coordinate display,
• Layout tab,
• Drawing area,
• Status bar and Status bar menu,
• Crosshairs and Pickbox,
• Navigation bar,
• Clear screen button.

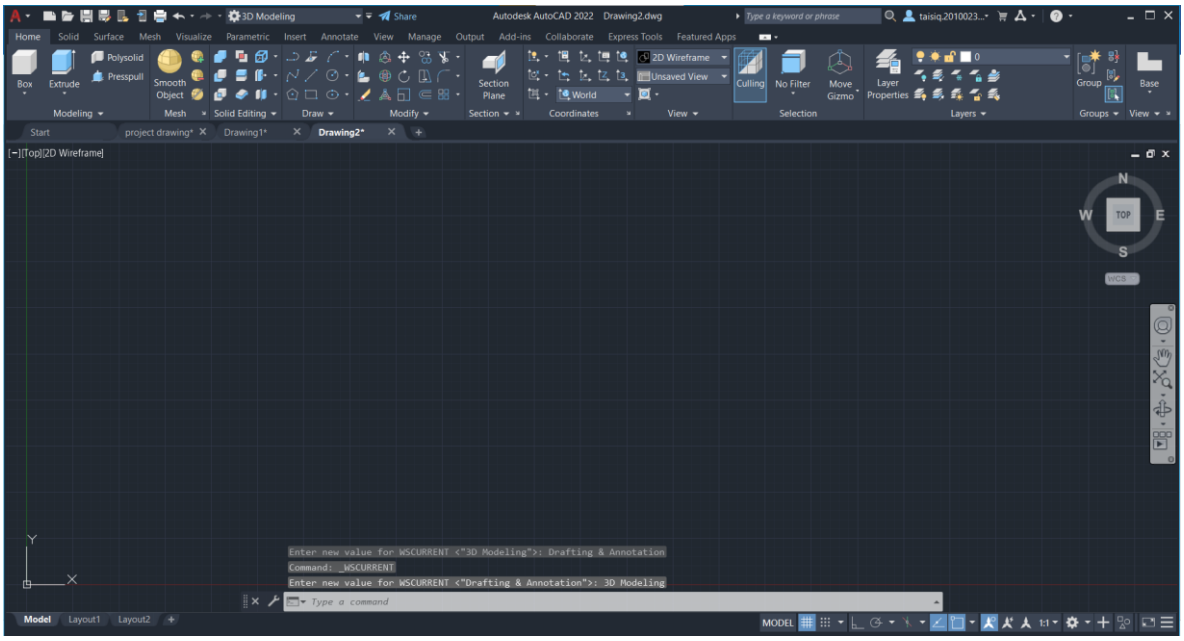


Figure 2.1.2: AutoCad 2022 interface 3D Modeling.

2.2 3D House Design.

For Implement this project I start with 3D modeling and different layer for each different task. and my project the first field frame is like this:

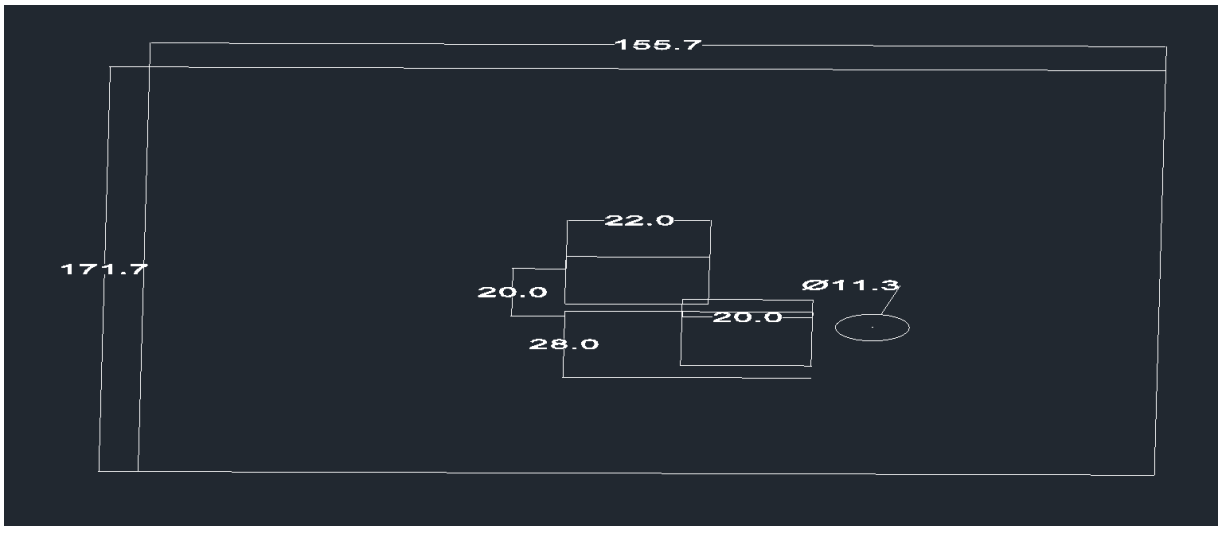


Figure2.2.1: Project Field Frame

I thinks I will be better if you see the 2D wireframe top view it will be more understandable for you.

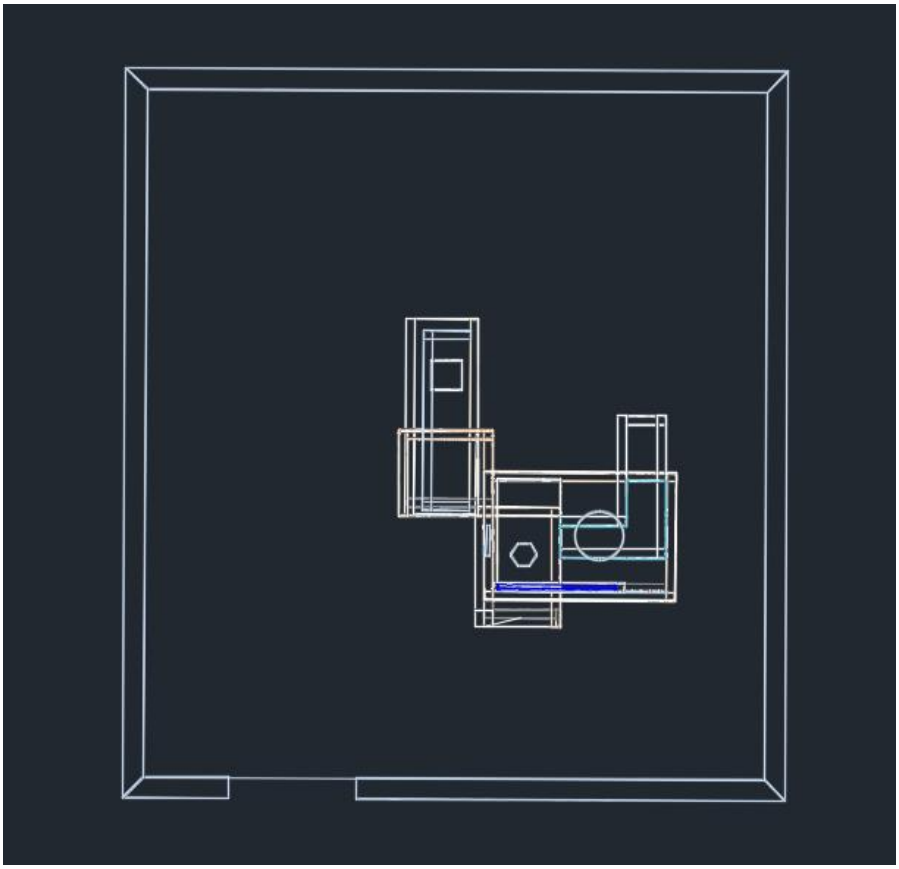


Figure 2.2.2: Frame 2D wireframe top view

After the framing the Figure 2.2.1 I press pull both on z axis with 2 displacements like below:

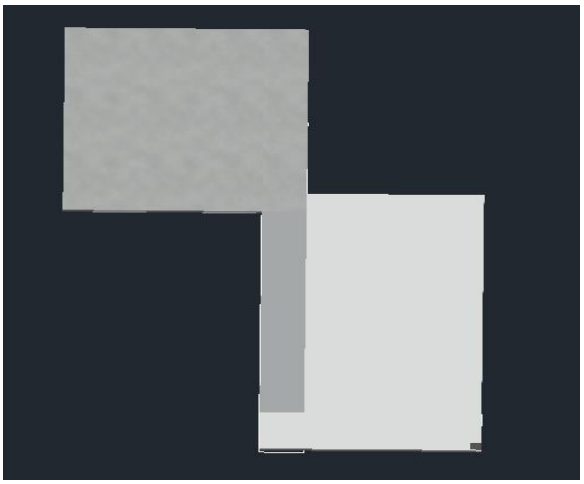


Figure 2.2.3

Then r again using press pull and make like wall like below:

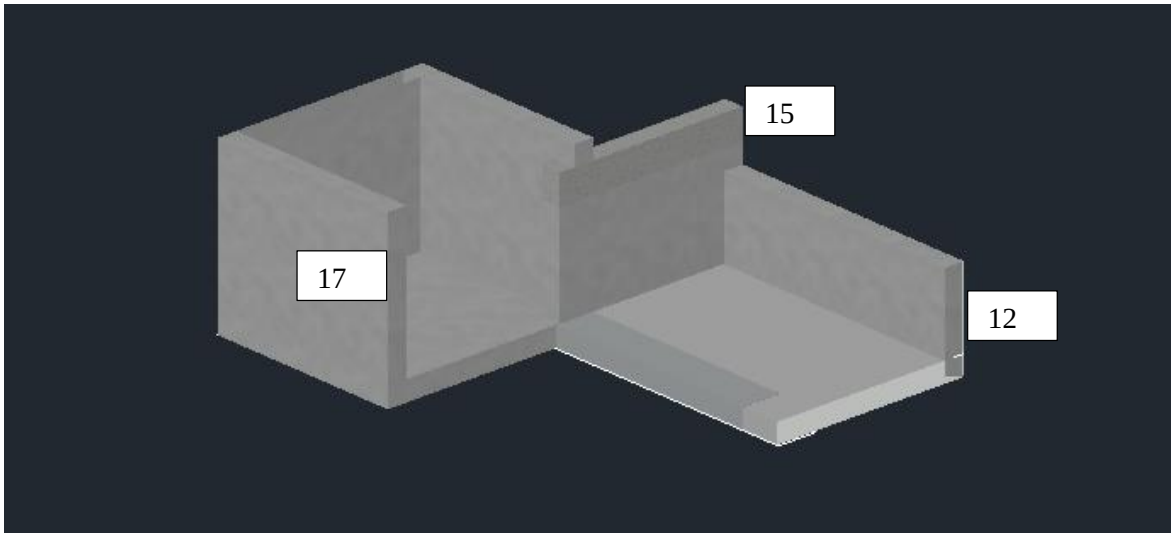


Figure 2.2.4

In the figure I mention the displacement of the press pull different side. For wall I use the wall layer.

At the third section I draw the roof on these drawing with roof layer with displacement 2.

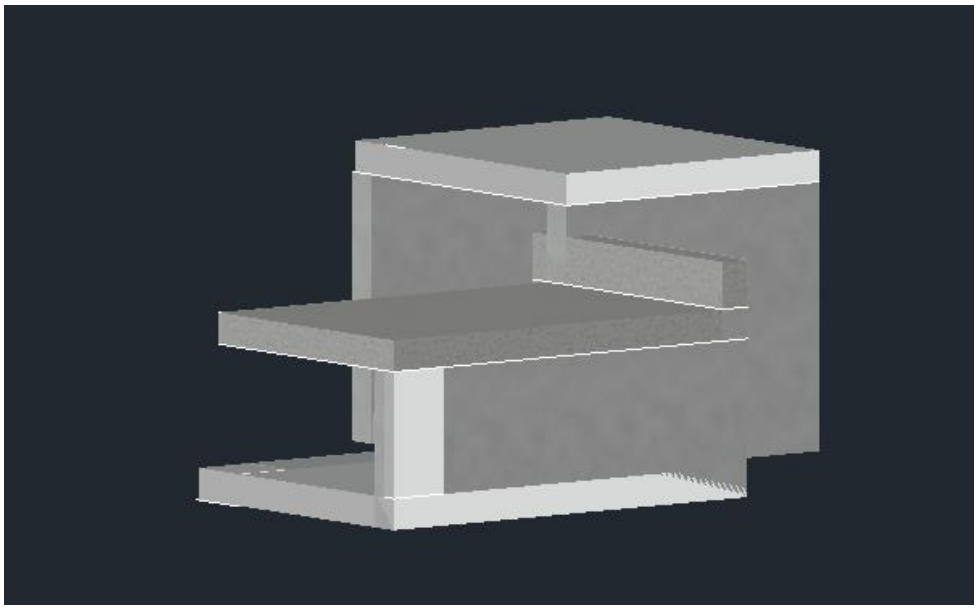
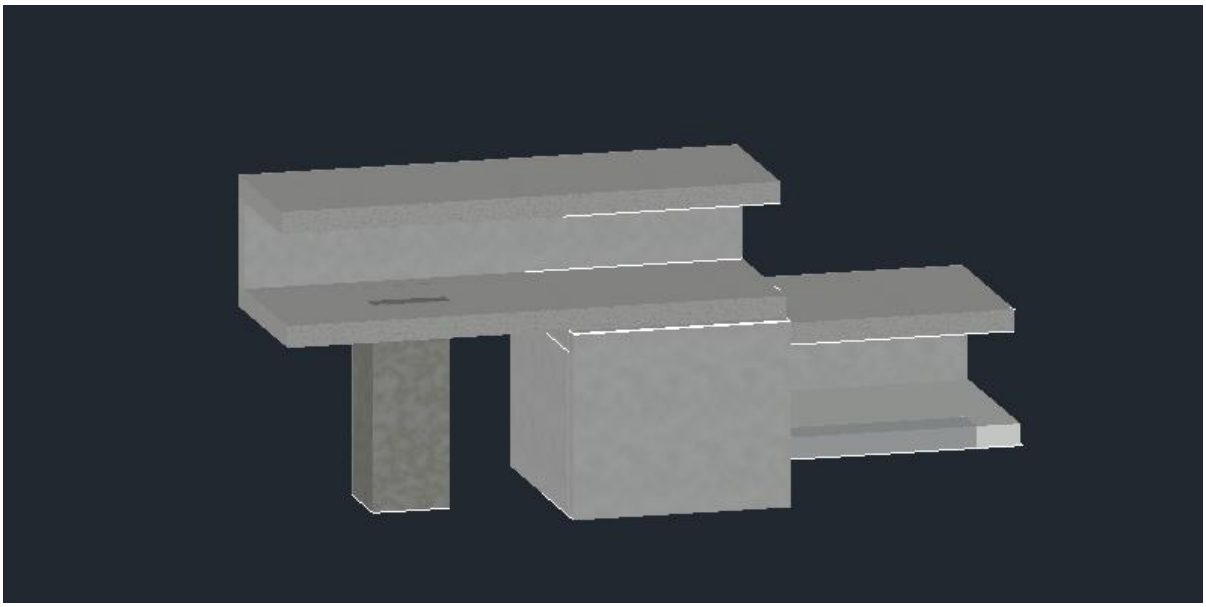


Figure 2.2.5

With this same method I draw another room on the behind side roof also draw a pillar for this



room.

Figure 2.2.6

Here displacement is mentioned and the pillar height is 22 and it's a 7*7 rectangle.

Then I draw another two one pillar is on the top of the front house and another one is beside the first house. Here the top pillar length is 36 and diameter is 6. I draw this pillar with polygon tools and there are 6 polygons. The second pillar length is 17 and its diameter is 12. I draw this with circle tools.

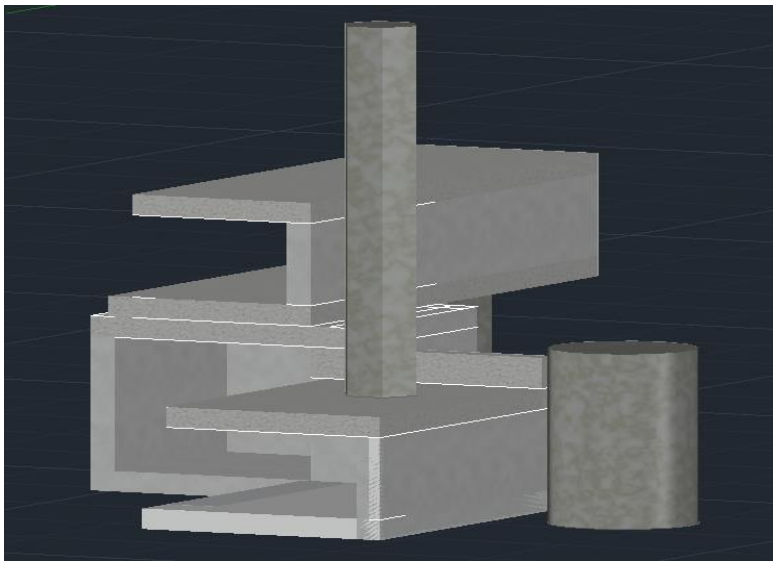


Figure 2.2.7

Here is a main design of my house. I draw a room 45*30 and its length is 20.50. Here I

want to mention that all the wall and roof displacement is 2. I also draw a swimming pool on the roof.

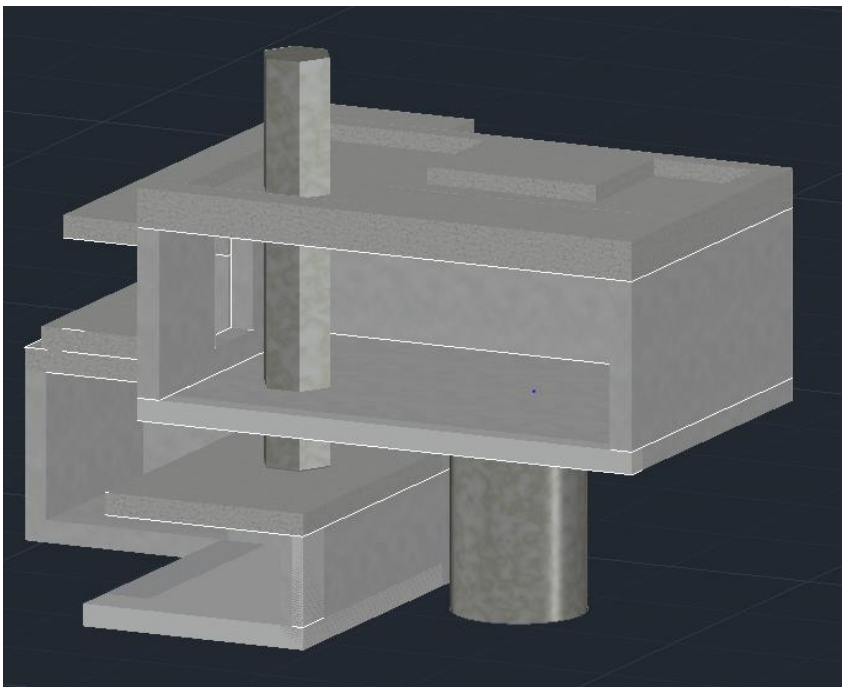
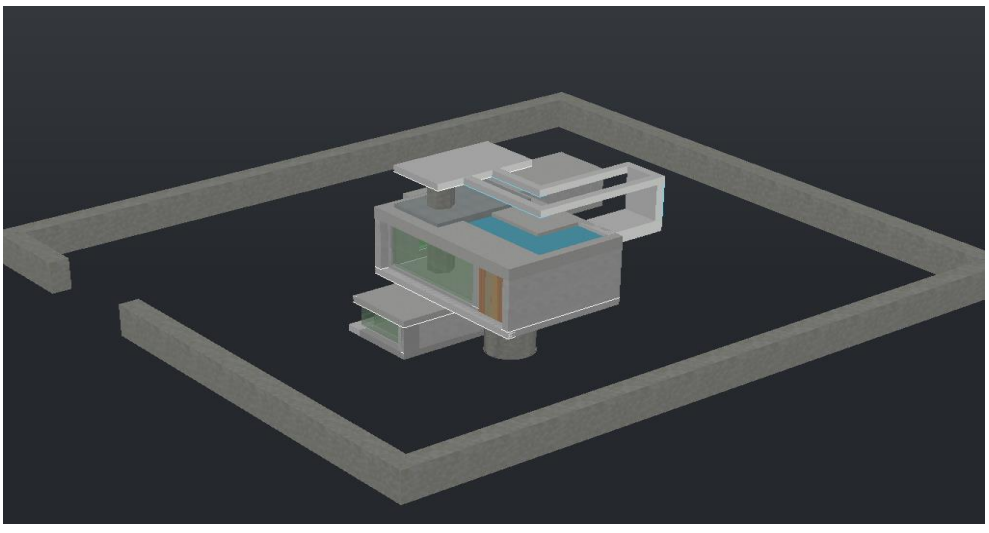


Figure 2.2.8

After this I make rooftop on the house and decorated the swimming pool. Also decorate the house with glass. Here is an option ‘View” + “Material Browser”. From there I decorated the house. Paints it use colorful glass etc. also I created a wall around the house.

After this the house design is finished.



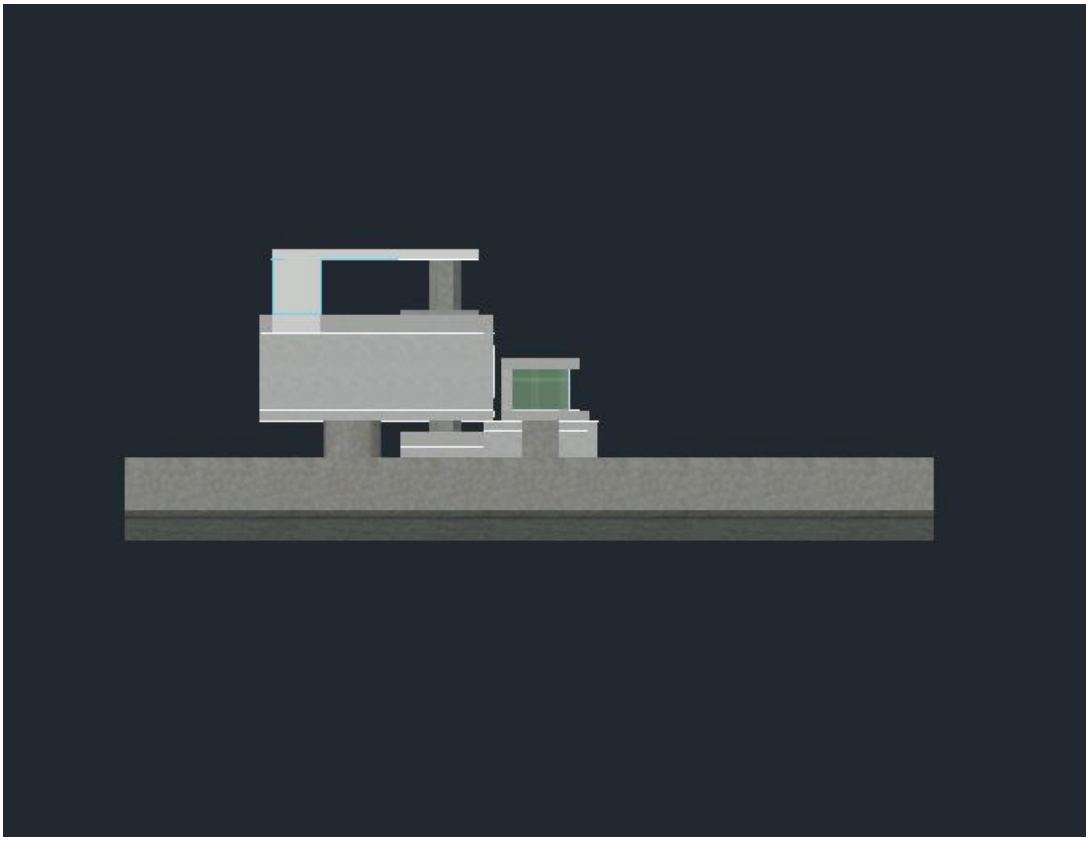
Chapter 3

Realistic View of the Design

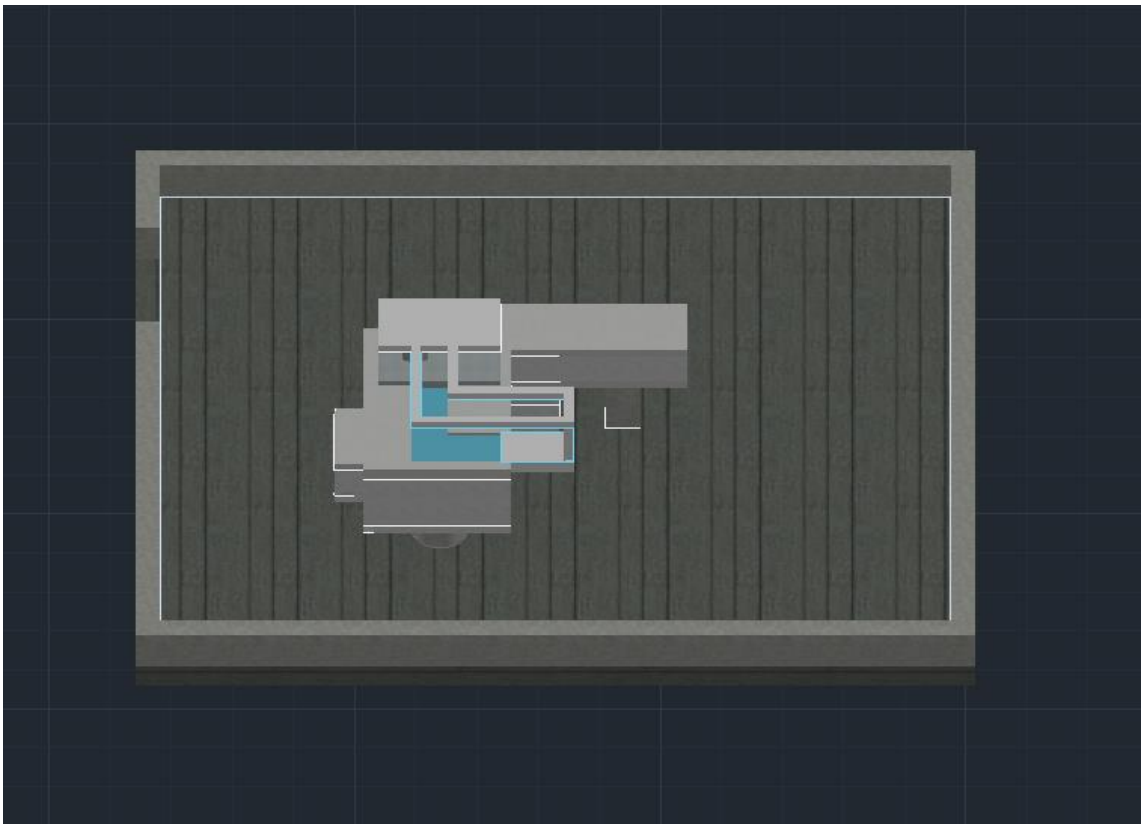
3.1 Front view

3.2 Top View

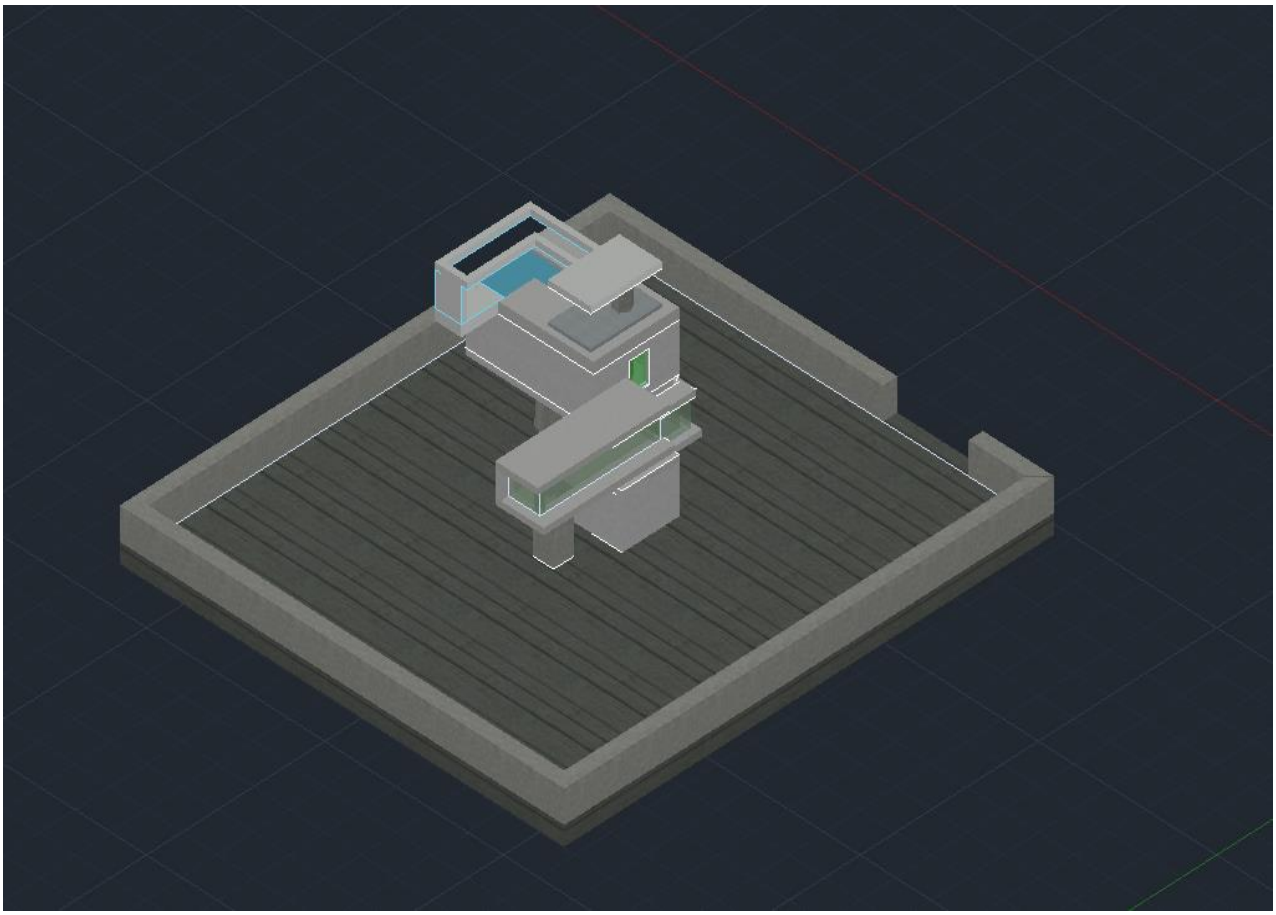
3.3 Back View

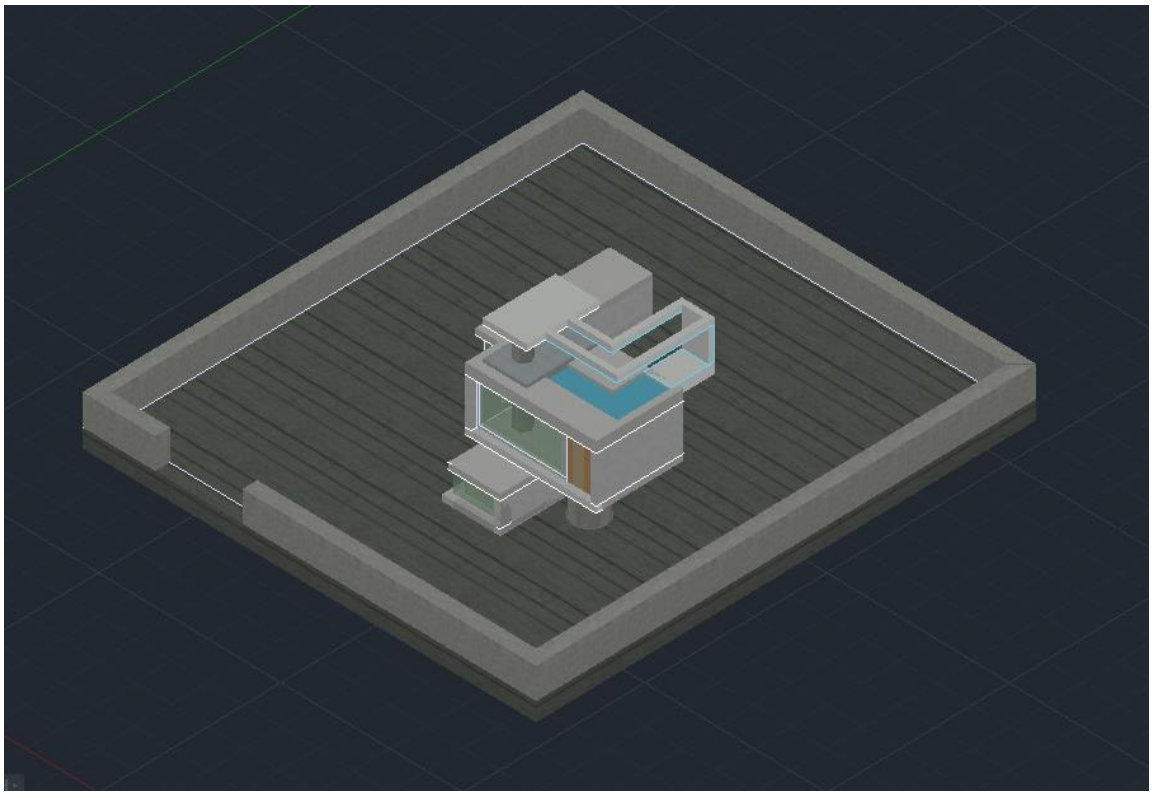


3.4 Right View



3.5 Left View





This has the real-life implementation picture is below:

3.6 Result and Analysis

3.6.1 Results

I discuss all about my project and also the final visualization you got a brief view and discussion about my project.

In this project the main outcomes is the exterior Design of the house.

3.6.2 Analysis

In this project I design a house exterior in 3D with the AutoCAD software. Doing this is not easy. The design also critical one. Another reason is it is my first big project. So, I felt some difficulties drawing this. But I overcome from all the problem.

Chapter 4

Conclusion

4.1.1 Introduction

My main concern was design exterior design of a house. So, I mainly focus on the exterior design. If you want to make a house in less space the design helps you most. It makes an idea for making a house in less space and also a beautiful house. It also helps those people who are living a hill area. Mainly this design is so much effective for the hill area.

4.1.2 Scope of Future Work

People nowadays are getting conscious to their surrounding spaces and sometimes they are so sensitive to the needs of their spaces. Within the development of unique skills and knowledge in design. House is fundamental demand for all the people. So, future scope for this work like less space house is more effective for all the time.

References

Below is the references where I get the idea:

https://www.artstation.com/?sort_by=community