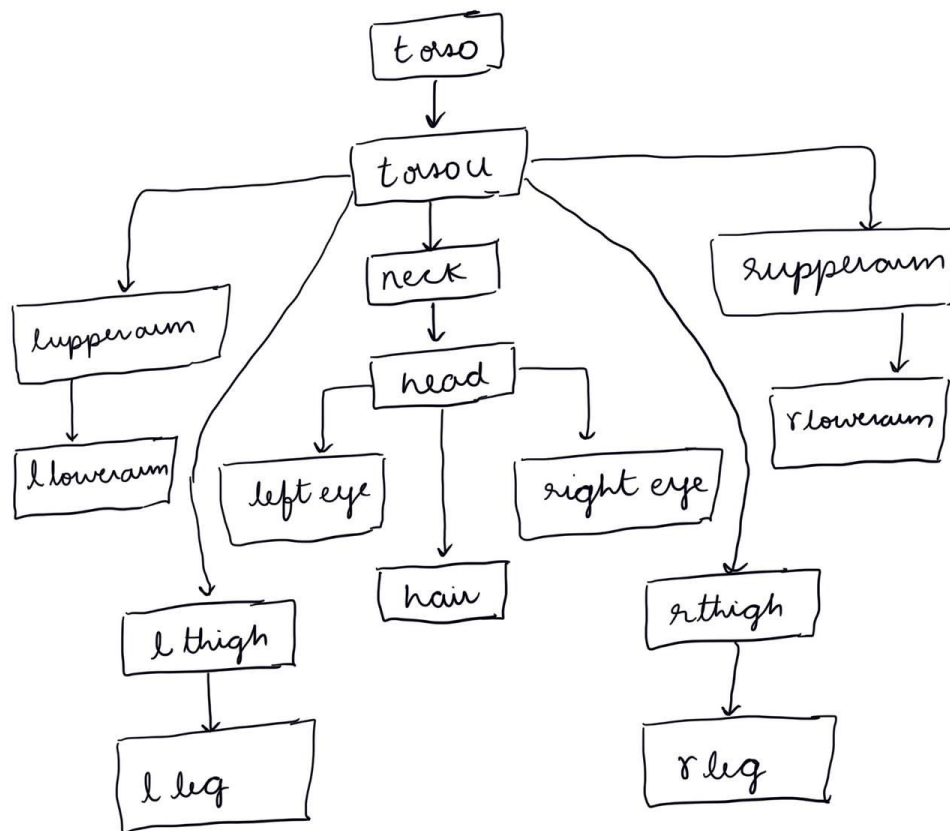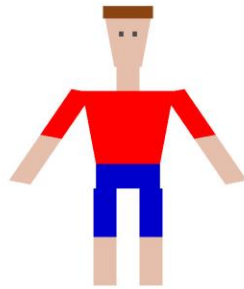# Report for FMX Modeling Project:
Name: Rakesh, Viswesh

For the given project we used the course tutorial 7 as a boiler plate and was then changed to implement the given instructions.

Hierarchy of rider:

Use to WASDQE to rotate the whole model around.

Use keys B, M, H, N, 1, 2, 3, 4 keys to make torso, torsoupper, head, neck, lupperarm, llowerarm, lthigh, lleg the current node in context, respectively.

Use left, up, right, down arrow keys, pgup, pgdown to rotate parts of the model, note that all keys do not work for all parts, every part has its own degrees of freedom.
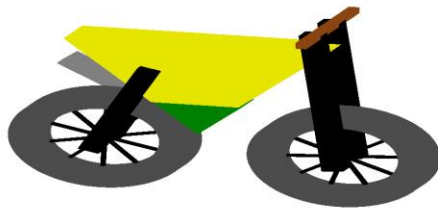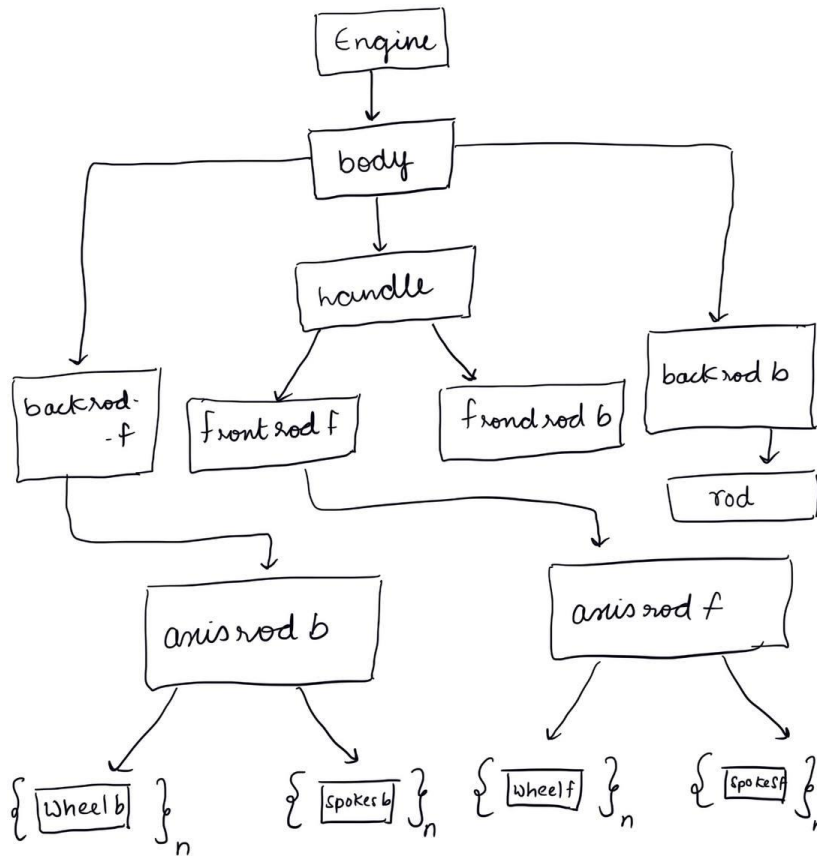
While holding the "equals" key holding down shift increases the size of the model, control decreases the size of the model.

While holding X or Y, holding either Shift or Control buttons, we can move the model around in the plane.

Perspective can be toggled using P key.

Hierarchy of bike:

Hierarchy of Bike:


```
                    ┌─────────┐
                    │ Engine  │
                    └────┬────┘
                         │
                    ┌────▼────┐
              ┌─────│  body   │─────────────────┐
              │     └────┬────┘                 │
              │          │                      │
              │     ┌────▼────┐                 │
              │     │ handle  │                 │
              │     └──┬───┬──┘                 │
              │        │   │                    │
    ┌─────────▼─┐  ┌───▼──┐│  ┌──────────┐  ┌───▼──────┐
    │ back rod  │  │front ││  │frond rod b│  │back rod b│
    │    -f     │  │ rod f││  └────┬──────┘  └────┬─────┘
    └────┬──────┘  └──┬───┘│       │              │
         │            │    │       │         ┌────▼───┐
         │            │    │       │         │  rod   │
         │            │    └───────┼─────┐   └────────┘
         │            │            ▼     │
    ┌────▼────────────▼─┐    ┌─────▼──────────┐
    │   axis rod b      │    │   axis rod f   │
    └──┬─────────────┬──┘    └───┬────────┬───┘
       │             │           │        │
    ┌──▼────┐   ┌────▼───┐   ┌───▼──┐  ┌──▼─────┐
    │Wheel b│   │Spokes b│   │Wheel f│ │Spokes f│
    └───────┘   └────────┘   └──────┘  └────────┘
       n            n            n         n
```


Use to WASDQE to rotate the whole model around.

In this model of the bike, there is no need to change any context of the parts, so use left, right arrow keys to rotate the handle, use up and down arrow keys to translate the bike in the direction it is facing.

While holding the "equals" key holding down shift increases the size of the model, control decreases the size of the model.

Perspective can be toggled using P key.

This was mostly how we built the models for all the objects.

The key binds for track are the same as that of the bikes.

For the track all we did was put the torso of the rider as the child node of the bike's engine, so that it moves around with the bike. We could not get the track to be done on time.