Week 3 – 10/2:
During the first week, we generated multiple ideas for the game and spent the time seeing which ideas had the most potential and fit our team's composition the best. We picked an RTS since our team was comprised of a lot of programmers.

Week 4 – 17/2:
My team role was solidified this week, so I was able to properly get started on my work. First, I wanted to research other RTS games so I could get a better understanding of how they worked. I found this website https://www.aoe2database.com/en which details everything in the RTS game Age of Empires 2. Using this I was able to see how the unit stats were structured as well as what calculations the game uses for damage, building and gathering.
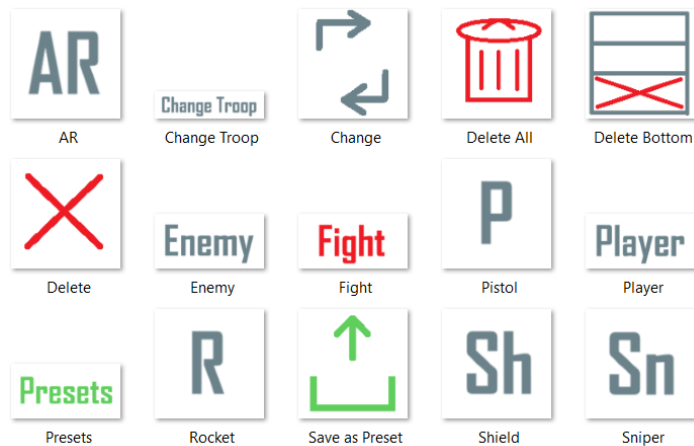

Week 5 – 24/2:
I started work on making a Battle Simulator for the game in excel. I first drew out an outline for how it would look and the different functions it would have.
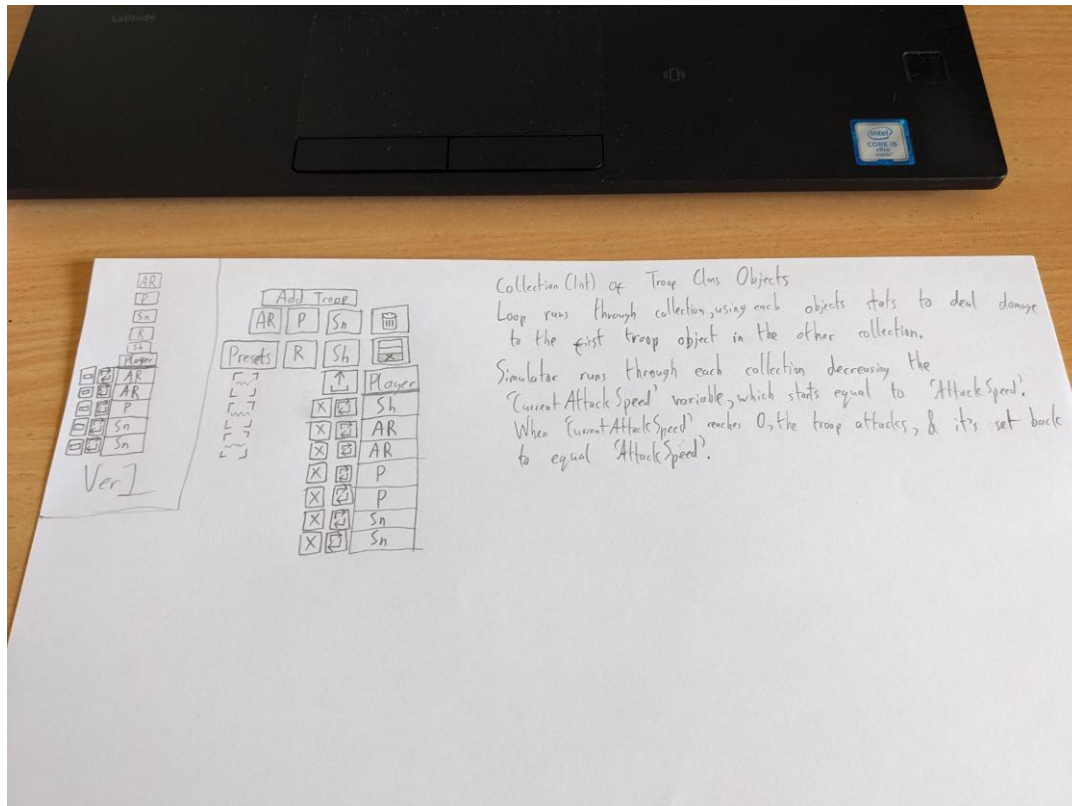
I then started making it in excel. I got the stats table for each of the troop types laid out and filled in with the sample stats.

Week 6 – 3/3:

For the Battle Simulator, I created a set of icons that would be used to activate different functions in the simulator to allow me to use it efficiently.

AR	Change Troop	Change	Delete All	Delete Bottom
Delete	Enemy	Fight	Pistol	Player
Presets	Rocket	Save as Preset	Shield	Sniper

Week 7 – 10/3:

I did research on video game economies to get a better understanding of how they are structured and the different components that are in them, and how that relates to our game.

Week 8 – 17/3:

I cloned each programmers git repo and looked through each of their code, making sure that I understood and was aware each feature in the game and that they were implemented as intended. I wanted to make sure that my balancing wasn't including variables that weren't there or that I wasn't missing anything.

Week 9 – 24/3:

I added the functionality to add and remove troops from the player and enemy team in the Battle Simulator. This is the setup for before a fight is simulated, and the functions were developed to be easily and quickly used.

Week 10 – 31/3:

I started work on getting the fight function and combat log function working.

```vba
Sub Fight()
    Dim time As Long
    Dim nextFireTime As Long
    Dim fightArmour As Long
    Dim fightDamage As Long
    Dim attackCount As Long
    Set attackCount = 0
    Set time = 0
    Set nextAttack = 0
    Do While playerCollection.Count > 0 And enemyCollection.Count > 0
        Dim i As Long
        For i = 1 To playerCollection.Count
            Dim playerTroop As TroopClass
            Dim enemyTroop As TroopClass
            Set playerTroop = playerCollection(i)
            Set enemyTroop = enemyCollection(i)
            If time >= nextFireTime Then
                Set fightArmour = enemyTroop.armour - playerTroop.piercing
                If fightArmour < 0 Then
                    Set enemyTroop.health = enemyTroop.health - playerTroop.damage
                Else
                    Set fightDamage = playerTroop.damage - enemyTroop.health
                    If fightDamage > 0 Then
                        Set enemyTroop.health = enemyTroop.health - fightDamage
                    End If
                End If
            End If
            Set playerCollection(i).nextFireTime = time + (1 / playerCollection(i).attackSpeed)
        Next i
        Set time = time + 0.1
    Loop
End Sub
```

```vba
Sub CombatLog(playerTroop As String, playerIndex As Long, playerDamage As Long, enemyHealth As Long, enemyIndex As Long, enemyTro
    Dim attackCount As Long
    Dim combatLogRange As range
    Set combatLogRange = range("N2").Offset(0, attackCount)
    combatLogRange.Offset(0) = playerTroop
    combatLogRange.Offset(1) = playerIndex
    combatLogRange.Offset(2) = playerDamage
    combatLogRange.Offset(3) = enemyHealth
    combatLogRange.Offset(4) = enemyIndex
    combatLogRange.Offset(5) = enemyTroop
    Set attackCount = attackCount + 1
End Sub
```

Self-Reflection:

Since my job was balancing, I wanted to make a tool in excel to balance troop combat,

which involved me learning how to use excel in a more advanced way, particularly in learning visual basic. I also learned about how video game economies are structured, and how resources flow within them. I worked with Max to figure out how resource gathering would work in its mechanics, since it would be the basis of what I could balance from. I also worked with Joe to figure out how the different mechanics of the troops would work, since again they would be what I would balance from.