Unity Tutorial:

- Will be adding projectiles and Random Enemy Spawns
- Add projectiles to player
    - o Create an empty object under player
    - o Click on camera and drag it in front of player model
    - o Move projectile emitter out towards camera
    - o Click check mark right under inspector to remove player from view
    - o Open assets folder
        - ▪ Create
            - • Create Material
    - o Click on white square in top corner to change color of material
    - o On bottom window, take object and move it into prefab folder
    - o Click on 3D object and delete it
- Create these variables to allow projectiles

    public Rigidbody projectile;
    public float projectileSpeed;

    public Gameobject emit;

- Edit update

    void Update () {
        …
        …
        …
        if(Input.GetkeyDown(KeyCode.Mouse0)){
            Rigidbody iP = Instantiate(projectile, emit.transform.position,
            emit.transform.rotation) as Rigidbody;
        iP.AddForce(emit.transform.forward * projectileSpeed);
        }
    }

- Go back to unity and ensure you are not getting a red error
- Drag sphere back into hierarchy
- Delete Prefab
- Add component to sphere
    - o Add Rigidbody
        - ▪ Mass: 1
        - ▪ Drag: 0
        - ▪ Angular drag: .05
        - ▪ Use gravity: Yes
        - ▪ Freeze Position: Y
        - ▪ Freeze Rotation: XYZ
- Drag sphere back into prefab and delete from scene
- Click on Main Camera
    - o Under player controller script on the right side
        - ▪ Drag sphere from prefab to projectile
        - ▪ Drag emitter from hierarchy to emmiter box
- Create empty object and call it enemy emitter
- Create Cylinder

- o Call it enemy
- Create 2 scripts
  - o EnemyEmitter

```
public class enemySpawn : MonoBehaviour {
        public Rigidbody enemy;

        public float delay;
        public bool determineSpawn;

        void Start () {
                StarCoroutine("DoCheck");
        }

        IEnumerator DoCheck(){
                for(int x = 0; x < 20; x++){
                        determineSpawn = randomSpawn();
                        if(determineSpawn == true){
                                Rigidbody iP = Instantiate(enemy, transform.position,
                                transform.rotation) as Rigidbody;
                        }
                        yield return new WaitForSeconds(delay);
                }
        }
        bool randomSpawn() {
                System.Random ran = new System.Random();
                Int I = ran.Next(0,3);
                bool temp = false;
                if(i == 0){
                        temp = true;
                }
                else if(i == 1){
                        temp = false;
                }
                else if(i == 2){
                        temp = true;
                }
                else if(i == 3){
                        temp = false;
                }
                return temp;
        }
}
```

- Drag enemy emitter into prefab folder and delete from hierarchy
- Drag enemy emitter into enemy on hierarchy
- Make Enemies move
  - o Open enemy behavior script

```
public float moveForce;
```

```
        private Rigidbody rbody;
        public Vector3 moveDir;

        void Start () {
                rbody = GetComponent<Rigidbody >();
                transform.rotation = Quaternion.LookRotation(moveDir);
        }

        void Update() {
                rbody.velocity = moveDir * moveForce;
                moveDir = transform.forward;
                transform.rotation = Quarternion.LookRotation(moveDir);
        }
```

- Move enemy out of the prefab and add it under enemy emitter
- Change z movement to -1
- Set up projectiles to hit enemies and end after delay
    - Create script
        - ProjectileCollision
        ```
        public float delay;
        private void Update(){
                Destroy(gameObject, delay);
        }
        private void OntriggerEnter(Collider.other){
                if(other.gameObject.Comparetag("Enemy")){
                        Destroy(other.gameObject)
                }
                Destroy(gameObject);
        }
        ```
    - Drag it out of prefab and add collider to sphere
    - Change delay to an actual time
    - Click enemy prefab
        - Click "add tag"
            - Call enemy
        - Check the enemy tag
- Duplicate enemy emitter to create 3 enemy emitters in a row

- Keyboard shortcuts
    - Zoom in and out with scroll wheel
    - Alt+M1 to drag