**Lab 2**

**Introduction to Unity and a simple 2D game II**

1. **Collision detection inside Ship code**

Inside Update()

foreach (GameObject go in MainGame.gameObjs) {  
 if (go != null) {  
 if (this.GetComponent<SpriteRenderer> ().bounds.Intersects   
 (go.GetComponent<SpriteRenderer> ().bounds))   
 {  
 DestroyObject (go);  
 }  
 }  
 }

}

1. **MainGame.cs → To generate a list of enemies**

using System.Collections;  
using System.Collections.Generic;  
using UnityEngine;  
public class MainGame : MonoBehaviour {  
  
    public static GameObject[] gameObjs;  
    void Start ()   
    {  
        *//Load from asset /Resources/Enemy*  
        Sprite[] sprites = Resources.LoadAll<Sprite> ("Enemy");  
        gameObjs = new GameObject[5];  
        for (int i = 0; i < gameObjs.Length; i++) {

gameObjs = new GameObject(“test\_”+1);  
      *//Add sprite component*  
      gameObjs[i].AddComponent<SpriteRenderer> ().sprite =

sprites[0];  
      float x = Random.Range (-5, 5);  
      float y = Random.Range (-3, 3);  
      gameObjs[i].transform.position = new Vector3 (x, y, 0);  
      *//Add script component*  
      gameObjs [i].AddComponent<Enemy> ();  
   }  
}

}

1. **Enemy.cs → Enemy’s component (C#)**

using System.Collections;  
using System.Collections.Generic;  
using UnityEngine;  
  
public class Enemy : MonoBehaviour {  
  
 *// Use this for initialization* float x;  
 float y;  
 void Start () {  
 x = Random.Range (-5, 3);  
 y = Random.Range (-8, 7);  
 }  
   
 *// Update is called once per frame* void Update () {  
 this.transform.position += new Vector3 (  
 x \* Time.deltaTime,   
 y \* Time.deltaTime,   
 0);  
 }

}

4. Delete game object

Destroy (this.gameObject);

5. Prefab

Asset type that allows you to store a GameObject object complete with components and properties. The prefab acts as a template from which you can create new object instances in the scene.

using System.Collections;  
using System.Collections.Generic;  
using UnityEngine;  
  
public class MainGame : MonoBehaviour {  
  
    public GameObject gameObject;  
  
    *// Use this for initialization*  
    void Start () {  
        Instantiate (gameObject);  
    }  
      
    *// Update is called once per frame*  
    void Update () {  
          
    }

1. **Solution (scale up and down) Have a bug!!!**

float scaleX = 2;

if (transform.localScale.x < 0.5f || transform.localScale.x > 2)

{  
 scaleX \*= -1;  
}

transform.localScale += new Vector3(scaleX \* Time.deltaTime, 0, 0);  
Debug.Log ("scale x = " + transform.localScale.x);