



Mario platformer like movement 2D (With double jump and flip character)

<https://youtu.be/YLfQfCAQu9E>

This movement script will give you an excellent start to create your own 2D platformer game. Give your character a Rigidbody2D and a Box collider 2D. Give the game Object this script :

```
using System.Collections;
using System.Collections.Generic;
using UnityEngine;

public class MarioMovement : MonoBehaviour
{
    // Mario platformer like movement 2D by René Pol for the Script Library -2021- RP-
    // Interactive.nl@///
    //Flip gameObject and use double jump//

    public float moveSpeed;
    public bool FacingRight = true;
    public float JumpForce;
    public bool OnGround;
    public Transform groundCheck;
    public LayerMask groundlayer;
    public bool DoubleJump;
    private float xInput, yInput;
    Rigidbody2D rb;
    Vector3 characterScale;
    float characterScaleX;

    void Start()
    {
        rb = GetComponent<Rigidbody2D>();
        characterScale = transform.localScale;
        characterScaleX = characterScale.x;
    }

    void FixedUpdate()
    {
        if (xInput > 0)
        {
            FacingRight = true;
        }

        if (xInput < 0)
        {
            FacingRight = false;
        }
    }
}
```



```
xInput = Input.GetAxisRaw("Horizontal");
//xInput = Input.GetAxis("Horizontal");//
transform.Translate(xInput * moveSpeed, 0, 0);
PlatformMovement();
transform.localScale = characterScale;
OnGround = Physics2D.OverlapCircle(groundCheck.position, 0.2f, groundlayer);
}

void Update()
{
if (Input.GetKeyDown(KeyCode.Space))
{
if (OnGround == true)
{
Jumping();
DoubleJump = true;
}
else if(DoubleJump)
{
JumpForce = JumpForce / 1.5f;
Jumping();
DoubleJump = false;
JumpForce = JumpForce * 1.5f;
}
}
}

void Jumping()
{
rb.velocity = Vector2.up * JumpForce;
}

void PlatformMovement()
{
if (FacingRight == true)
{
characterScale.x = characterScaleX;
}
if (FacingRight == false)
{
characterScale.x = -characterScaleX;
}
rb.velocity = new Vector2(moveSpeed * xInput, rb.velocity.y);
}
}
```

When your not using Raw in the input line the movement gets a more sliding look to it. When raw is used stopping movement happens immidiatly on key release. The second jump is less high then the first by deviding the original jumpforce. After the second jump the jumpforce is restored. Flipping the character uses the localScale. You might have noticed people use FlipX in the script however when your character has a child object, this child object will not flip with. So using localScale is better. The bool FacingRight determines when the gameObject should be flipped.