

```

package{

    //import packages needed for the game
    import flash.display.*;
    import flash.events.*;
    import flash.geom.*;
    import flash.ui.*;

    //3rd party packages
    import Key;

    //this class represents the flash root, so it must extend the movieclip type
    public class gameMain extends MovieClip {

        /*
            constants used in the game go here
        */
        const gravity:Number = 1;
        const friction:Number = .8;
        const speed:Number = 5;
        const jump:Number = 10;

        /*
            game variables
        */
        public var playerVelocity:Object;
        public var onGround:Boolean;

        /*
            objects user in the game
        */
        public var player:MovieClip;
        public var gameStage:MovieClip;

        //runs first
        public function gameMain():void {

            //initialize any game objects

            //new player
            player = new tinyMan();
            player.x = 100;

            //new stage
            gameStage = new stage1();

            //new player velocity
            playerVelocity = new Object();
            playerVelocity.x = 0;
            playerVelocity.y = 0;

            //misc
            onGround = false;
            Key.initialize( stage );

            //add objects to the stage as needed
            this.addChild( gameStage );
            this.addChild( player );

            //start game loop
            this.addEventListener( 'enterFrame', onEnterFrame );
        }

        //the code within this function will run once every frame
        public function onEnterFrame( e:Event ):void {

            updateInput();

            //update velocity
            playerVelocity.y += gravity;
            playerVelocity.x *= friction;

```

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//test to see if the player is on the ground
if( gameStage.hitTestPoint(player.x, player.y, true) && playerVelocity.y > 0) {
    //if it has hit the ground, halt gravity
    playerVelocity.y = 0;
    //set on ground to true
    onGround = true;
} else {
    //hes not on the ground, let the game know this.
    onGround = false;
}

//update position
player.x += playerVelocity.x;
player.y += playerVelocity.y;
}

//handle input
public function updateInput():void {

    if( Key.isDown( Keyboard.LEFT ) ) {
        playerVelocity.x = -speed;
    }

    if( Key.isDown( Keyboard.RIGHT ) ) {
        playerVelocity.x = speed;
    }

    if( Key.isDown( Keyboard.UP ) ) {
        if( onGround ) {
            onGround = false;
            playerVelocity.y = -jump;
        }
    }

}

}
}

```