

Tom's Truck Dodge Game

Code Explanation and Implementation:

Event: When Green Flag Clicked

when green flag clicked

go to x: -127 y: -90

stop all

set y to 0

Description: When the green flag is clicked, the game starts by positioning the character (Tom) at coordinates (-127, -90), stops all previous actions, and sets the vertical position (`y`) to 0.

Event: Forever Loop

forever

 broadcast [collisions v]

 broadcast [collision detected v]

Description: This creates a continuous loop where two messages (`collisions` and `collision detected`) are broadcasted repeatedly.

Event: When Right Arrow Key Pressed

when [right arrow v] key pressed

change x by 20

Description: When the right arrow key is pressed, Tom moves horizontally to the right by 20 units (`x` coordinate).

Event: When I Receive "collision detected"

when I receive [collision detected v]

if <touching [Truck v] ?> then

 stop

Description: Upon receiving the message "collision detected", if Tom is touching the Truck sprite, the game stops.

Event: When I Receive "update"

when I receive [update v]

change y by -1

if <touching [ground v] ?> or <touching [Truck v] ?> then

repeat until <<touching [ground v] ?> or <touching [Truck v] ?>>

change y by 10

end

set y to 0

if <key [space v] pressed ?> then

set y to 20

say [Yahoo!!] for 0.5 seconds

Description: Upon receiving the "update" message:

- Decrease the vertical position (`y`) of Tom by 1 unit.
- If Tom is touching either the ground or the Truck, repeatedly increase `y` by 10 units until Tom is no longer touching.
- Set `y` to 0 once Tom is no longer touching the ground or Truck.
- If the spacebar key is pressed, set `y` to 20 and make Tom say "Yahoo!!" for 0.5 seconds.

Complete Scratch Game Code

Here's how you can structure the complete Scratch code based on the described events and actions:

when green flag clicked

go to x: -127 y: -90

stop all

set y to 0

forever

 broadcast [collisions v]

 broadcast [collision detected v]

when [right arrow v] key pressed

change x by 20

when I receive [collision detected v]

if <touching [Truck v] ?> then

 stop

when I receive [update v]

change y by -1

if <touching [ground v] ?> or <touching [Truck v] ?> then

 repeat until <<touching [ground v] ?> or <touching [Truck v] ?>>

 change y by 10

 end

 set y to 0

if <key [space v] pressed ?> then

 set y to 20

 say [Yahoo!!] for 0.5 seconds

Explanation

Initialization: Tom starts at position (-127, -90) and all previous actions are stopped (`stop all`). Vertical position `y` is set to 0 initially.

Forever Loop: Continuously broadcasts messages for collision events (`collisions` and `collision detected`).

Right Arrow Key: Moves Tom to the right when the right arrow key is pressed.

Collision Detection: Stops the game if Tom touches the Truck.

Update Event: Handles gravity (`change y by -1`), checks for ground or Truck collisions, adjusts `y` accordingly, and allows Tom to jump (`set y to 20`) when the spacebar is pressed, with a celebratory "Yahoo!!" announcement.