CS 120 Final Project Algorithm

Import elements

Class star:

Define init

Set image

Set size

Set minimum speed

Set maximum speed

Set reset

Define reset

Set y value

Set x value as random

Set dy value

Define checkbounds

If the star is at the bottom of the screen

Reset

Class meteor:

Define init

Set image

Set size

Set minimum speed

Set maximum speed

Set reset

Define reset

Set y value

Set x value as random

Set dy value

Define checkbounds

If the star is at the bottom of the screen

Reset

Class speed boost:

Set image

Set size

Set max speed for negative

Set min speed for negative

Set max speed for positive

Set min speed for positive

Set reset

Define reset

Generate a random number between one and two

If random number is 1:

Set speed boost to fall from top of screen

If random number is 2:

Set speed boost to fall from bottom of screen

Class speed loss:

Set image

Set size

Set max speed for negative

Set min speed for negative

Set max speed for positive

Set min speed for positive

Set reset

Define reset

Generate a random number between one and two

If random number is 1:

Set speed loss to fall from top of screen

If random number is 2:

Set speed loss to fall from bottom of screen

Create a class for a second speed loss

Class spaceship:

Define init

Set image

Set size

Set starting position

Set moving speed

Define process:

If left is pressed and not at the wall, go left

If right is pressed and not at the wall, go right

If up is pressed and not at the wall, go up

If down is pressed and not at the wall, go down

Class score label:

Define init

Create the score text

Center the label

Class health label:

Define init

Create the score text

center the label

class heart:

define init

set image

set size

set position

create eliminate command

define eliminate:

kills sprite

Create two more heart classes

Class game:

Define init

Set image

Create hit count at 0

Create score at 0

Set score label

Set health label

Set spaceship

Set star

Set seven meteors

Set speed boost

Set both speed losses

Set all three hearts

Designate as sprites

Define process:

For each meteor:

If it collides with the spaceship:

If the user is on their last heart:

End game

Else:

Play sound effect

Remove a heart

Add one to the hit counter

Reset the meteor

If a star collides with the spaceship:

Play sound effect

Add to the score

Reset the star

Update the label

If a speed boost collides with the spaceship:

Play sound effect

Increase the spaceship’s speed by 0.5

Reset the speed boost

If a speed loss collides with the spaceship:

Play sound effect

Decrease the spaceship’s speed by 0.5

Reset the speed loss

Class intro:

Define init

Set background image

Set response to “quit”

Create a label with the title and the instructions

Center the label

Size the label

Create the play button

Create the quit button

Designate the sprites

Define process:

If the play button is clicked:

Stop

If the quit button is clicked:

Stop

Play background music for the intro screen

Define main:

Keep going is set to true

While keep going is true:

Start the intro

If the intro response is play:

Start the main game

Else:

Keep going is false

If name is “\_\_main\_\_”:

main