Independent Activity – 17 (Pen Platformer Part 2)

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Create Fall/Jump and Floor/Ceiling Detection in the 'Pen Platformer'

Activity	Examples
Create code to add LIFE (movement) for the player sprite in the PEN platformer game. This is done by adding code for gravity, obstacles, jumping, ceiling detection and so on. Go step by step. Use this chance to also learn and get more familiar with MyBlocks. NOTE: You are allowed to change the arena that you created in the first part of this activity if you think that makes sense for your activity.	https://scratch.mit.edu/projects/400757611/ https://scratch.mit.edu/projects/129363158/ https://scratch.mit.edu/projects/421521778 https://scratch.mit.edu/projects/421515755 https://scratch.mit.edu/projects/422917243 https://scratch.mit.edu/projects/422411296 https://scratch.mit.edu/projects/422356527 https://en.scratch-wiki.info/wiki/Pen_Games#cite_note-1 An exceptionally good tutorial on Platformers https://scratch.mit.edu/projects/67727504/
	Class Project: https://scratch.mit.edu/projects/421157637/

Please see SLIDE number 4 for a step-by-step guidance on how you should approach this activity. Be systematic. Be creative. Enjoy the process.

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Marking Criteria (Max Marks: 12)

Task	Marks Given
Gravity Effect Created (Falling with increasing speed)	2
Sprite stops the fall when it hits the floor	2
Sprite jumps (But only when it is on the floor)	2
Sprite has code to detect ceilings	2
Sprite responds to obstacles/falling into ground, touching other floors	2
Bonus: Add lives, score, many levels, innovative arena (e.g. ramps), code to prevent sprite going up very steep slopes, Allowing jumps from close to ground, other kind of obstacles etc.	2
PENALTY: Late Submission (Per Day)	-1
PENALTY: Project not shared on scratch	-1

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Step by Step Approach

Step 0

Revise the key concepts :

Gravity, Jumping, Ceiling Detection, MyBlocks, Inputs, Run Without Refresh etc

Step 1

Create Gravity Effect

(Object whose speed increases as it falls)

Step 2

Create code to stop near the floor

(Smart usage of MyBlocks)

Do not go to the next step unless the present step is clear.
At every step, ask yourself, what can I do differently?

Step 5

Add code for responding to obstacles, different colour floors,

Game endings, lives etc

Step 4

Create Code for Ceiling detection

Modify the code from Step 2 to get this effect

Step 3

Create Code for jumping
And preventing jump when not on floor

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Common Problems

Problem	Remedy
Touching the floor does not immediately stop the sprite	Are you running the MyBlocks with 'RUN WITHOUT SCREEN REFRESH'
Sprite seems to be walking over obstacles	Did you choose the colour correctly? Use dropper tool.
Sprite just falls through the floor	Make sure the order of statements is correct.

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Enjoy!

* Remember to submit your project in time!

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