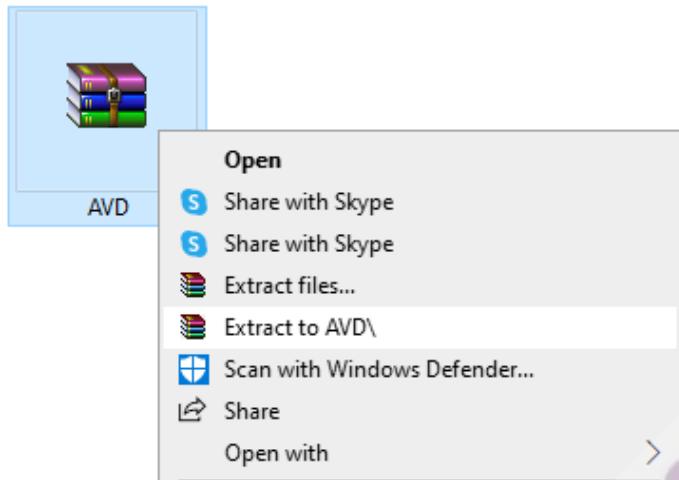


Topic	SEQUENCES	
Class Description	Build deep coding foundations by learning how to give ordered commands to the computer. Kids strengthen logic constructs by structuring composite tasks into ordered sequences.	
Class	ADV-C1	
Class time	50 mins	
Goal	<ul style="list-style-type: none"> ● Identify the steps to solve a problem ● Identify the right order of steps to solve the problem 	
Resources Required	<ul style="list-style-type: none"> ● Teacher Resources <ul style="list-style-type: none"> ○ Use your Code.org login credentials ○ Earphone with Mic ○ Notepad and Pen ● Student Resources <ul style="list-style-type: none"> ○ Use your Code.org login credentials ○ Earphone with mic(optional) ○ Notepad and Pen 	
Class structure	Warm Up Teacher-Led Activity Student-Led Activity Wrap-Up Project pointer and cues	2 Mins 8 Mins 30 Mins 5 Mins 5 Mins
<p>NOTE FOR TEACHER - Any Activity which gets downloaded as zip file, so the process to unzip the file -</p> <p>Window Users :</p> <p>Step 1: Select the zipped file which you have downloaded.</p> <p>Step 2:</p>		

Right click on the folder and select the option “Extract files to (name of the folder)- this will create a folder on the same location with the same name as the zipped file.



Now open the folder which has been created, and inside it you will get all the files of the zipped file.

Mac Users :

Step 1:

Select the zipped file which you have downloaded.

Step 2:

Double click on the zipped file

OR

Select the file and press control key + click on the mouse pad, and open with - Archive Utility



This will create a folder on the same location with the same name as the zipped file.

Now open the folder which has been created, and inside it you will get all the files of the zipped file

WARM UP SESSION - 2 mins



Teacher starts slideshow from slides 1 to 26.
Refer to speaker notes and follow the instructions on each slide.



TEACHER ACTIVITY - 8 mins

Teacher Initiates Screen Share

Let me show you how **SEQUENCE** is important while coding as we know the computer follows instruction line by line.

I am going to do a few coding activities for you and then you will have to do the rest.

Lets see what we have here, This is our coding space layout.

Blocks: This section has all the coding blocks I need to solve the puzzle. I simply drag the required block from this section and drop it in workspace section

Workspace: This is where I will arrange all the code blocks in sequence one below the other. Basically one block means one action.

[Teacher Activity 1-ANGRY BIRDS](#)

Explain the coding environment layout steps to students while you do these activities.

For All Activities, Teacher is expected to think aloud and keep saying the steps you take for kids to understand faster

Output: This is where you will see the output of your code in action on top left.

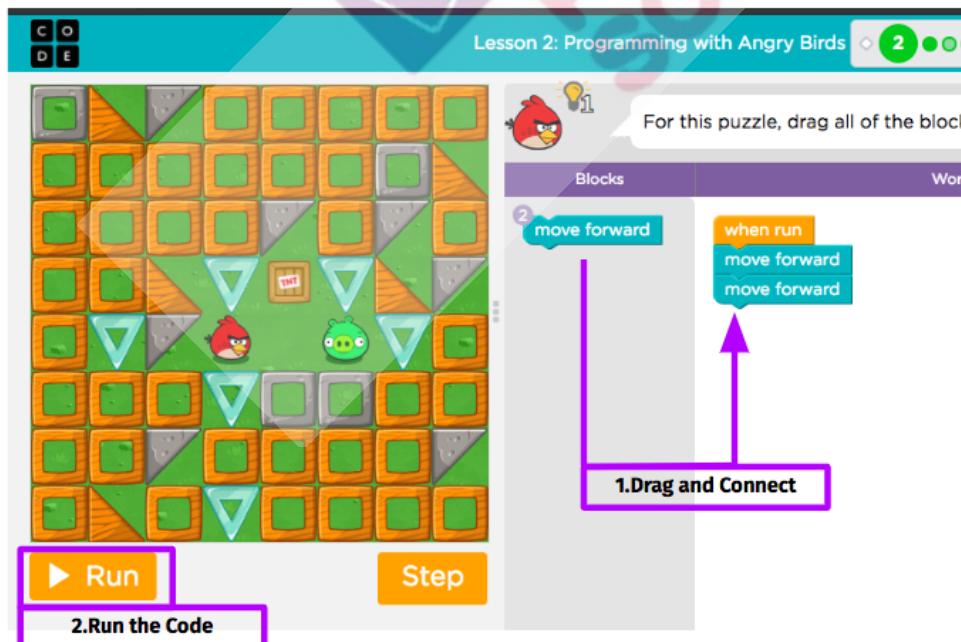
Now let's write some code and see how this works.

1. Drag and connect the blocks as per the **Instructions on Screen**.

2. Click **RUN** to execute the code.

Solution 1

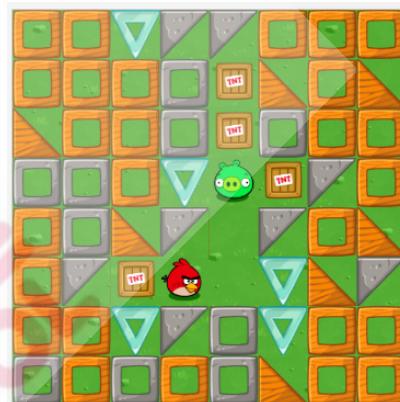
```
when run
move forward
move forward
```



The image shows a Scratch-based programming interface for a game level featuring Angry Birds. On the left is a green and orange level map with various obstacles like TNT barrels and pigs. On the right, there's a workspace with a script area and a stage area. A speech bubble from an angry bird says: "For this puzzle, drag all of the blocks". Below it, a script is shown with two blocks: "move forward" and "when run [move forward move forward]". A purple arrow points from the text "1.Drag and Connect" to the "when run" block. At the bottom, there are buttons for "Run" and "Step", and a highlighted button labeled "2.Run the Code".

Teacher Activity 2-ANGRY BIRDS

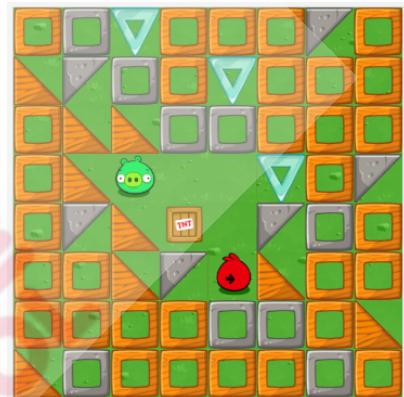
For All Activities, Teacher is expected to think aloud and keep saying the steps you take for kids to understand faster



Solution 2

```
when run
move forward
turn left
move forward
move forward
```

Teacher Activity 3-ANGRY
BIRDS



Solution 3

```
when run
move forward
move forward
turn left
move forward
move forward
```

Teacher Stops Screen Share

Teacher starts slideshow  from slides 27 to 29.

Refer to speaker notes and follow the instructions on each slide.

STUDENT ACTIVITY  - 30 mins

Now it's your turn.

- Ask Student to press ESC key to come back to the panel
- Guide Student to start Screen Share
- Teacher gets into Fullscreen

Student Initiates Screen Share

Remember the computer will follow your instructions line by line so you have to be correct while giving it instructions in a specific order which is called **SEQUENCE**

Click on Student Activity 1 and start coding.

[Student Activity](#)
[1-COLLECTING](#)
[TREASURE](#)



Solution 1

So, you see computer executes the code in a **SEQUENCE** of instructions you provide it, even if the **SEQUENCE** is wrong, So you need to make the necessary changes to the sequence for the code to work correctly

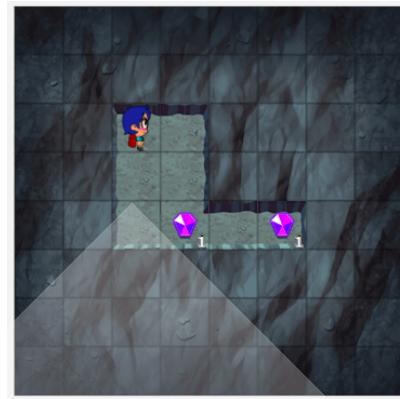


OR

[Student Activity](#)
[2-COLLECTING](#)
[TREASURE](#)

Treat all these activities as 'guided practice'. Let the student say what he/she is doing aloud throughout the activity. Teacher can help if the student is getting stuck. This scaffold can be gradually removed as the student progresses through the activities.

Click I am ready



Solution 2



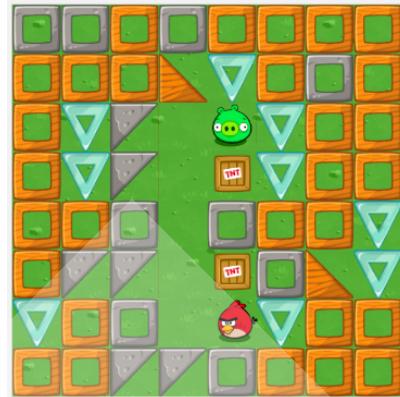
[Student Activity](#)
[3-COLLECTING](#)
[TREASURE](#)



Solution 3

```
when run
move [forward v]
move [forward v]
collect
turn [left ^]
move [forward v]
collect
move [forward v]
collect
move [forward v]
turn [right ^]
```

[Student Activity 4-ANGRY BIRDS](#)



Solution 4

```
when run
move forward
move forward
turn right
move forward
turn left
move forward
turn right
move forward
move forward
move forward
turn right
move forward
```

[Student Activity 5-
COLLECTING TREASURE](#)



Solution 5

```
when run
move [forward v]
move [forward v]
turn [right v]
move [forward v]
collect
collect
move [forward v]
turn [right v]
move [forward v]
collect
collect
collect
move [forward v]
move [forward v]
collect
collect
collect
collect
move [forward v]
turn [right v]
move [forward v]
collect
```

[Student Activity 6-ANGRY](#)

BIRDS



Solution 6

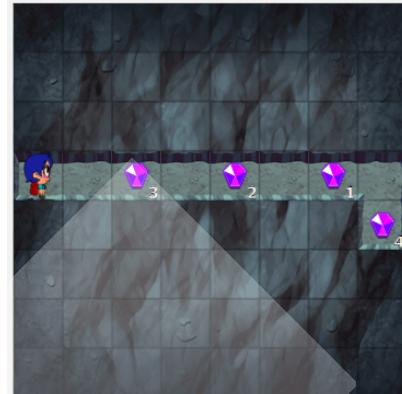
```
when run
move forward
turn [right ▾]
move forward
move forward
move forward
move forward
move forward
turn [left ▾]
move forward
move forward
turn [left ▾]
move forward
move forward
```

[Student Activity 7-](#)



Wow! You have done a great Job.

COLLECTING TREASURE



Solution 7

```
when run
  move [forward v]
  move [forward v]
  collect []
  collect []
  collect []
  move [forward v]
  move [forward v]
  collect []
  collect []
  move [forward v]
  move [forward v]
  collect []
  move [forward v]
  turn [right v]
  move [forward v]
  collect []
  collect []
  collect []
  collect []
```

What is a Gmail ID?

Gmail ID is nothing but an account with google, and you can use this account for accessing various applications and websites like facebook, youtube etc. And also for creating your own apps as we progress along the course.

During this course we will be using many platforms to create products like games, animations, publishable apps, databases, etc. And to access all these platforms you need a gmail id.

So be ready with your Gmail ID, since you will be needing the same for signing up on different platforms in a few upcoming classes.

Teacher asks the student to go back to **Panel**

Module activities are progressive activities which are mandatory for kids to perform with Teacher's help. These activities build up towards a grand outcome.

In this Module (C1 to C7) Teachers will help to develop a publishable MyProfile app for each student.

C1-C7: The Design and Code part of the app will be completed by the student with teacher's help.

For this student should have a gmail account.

Teacher Guides Student to Stop Screen Share

WRAP UP SESSION - 2 MIN



Teacher starts slideshow from slides 30 to 34.
Refer to speaker notes and follow the instructions on each slide.



FUN STUDENT ACTIVITY

- Ask the student to press the ESC key to come back to the panel.
- Guide the student to start Screen Share.
- Teacher gets into Fullscreen.

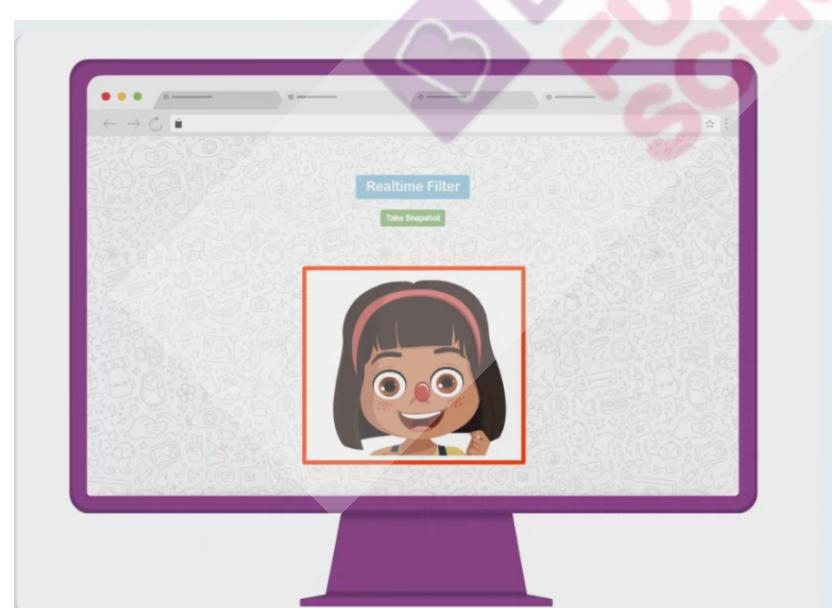
Student Initiates Screen Share

Shall we begin with today's fun activity which is adding the clown filter to our image?

[Student Activity 8-clown Nose Filter](#)

Before opening this website, close the webcam from all other websites where the camera is used, and then open this website.

Ask the student to open the link for student activity 8.



Wow! You look cool in this clown nose filter. Click selfies in various poses and share with everyone!

And also let them know that soon you will be creating such a filter app by your own with your own filters!

Great!

Let's move ahead!

Student Stops Screen Share

DID YOU KNOW, UPCOMING CLASS, AND PROJECT POINTERS - 5 Mins



Teacher starts slideshow

from slide 35 to 37.

Project Name:[**DIGITAL NUMBERS**](#)

Today, you learned about the sequence and understood how following a specific order is very helpful in successfully running a program.

Goal of the Project:

In Class 1, you learned about sequencing and how following a specific order is very helpful in successful running of your program.

In this project, you will need to create digital numbers by coloring specific lines on the canvas.

Story:

Your school is hosting a quiz competition. Your principal wants you to create a digital scorecard. You have to send a sample of how the numbers will look when displayed.

Before you start, here is an interesting fact for you - The numbers displayed on handheld calculators are made by

Note: You can assign the project to the student in class itself by clicking on the Assign Project button which is available under the projects tab.

Make sure the students understand what he is expected to do in the project by asking questions like what, how, where, etc.

lighting up different parts of the seven lines that are on the screen.

With this fact in mind, can you now create a canvas that lights up your favourite number?

The project will take only 30 minutes to finish. You can try and finish it immediately after this class.

I am very excited to see your project solution and I know you will do really well.

Bye Bye!

 End Class

Teacher Clicks

Additional Activities



Teacher starts slideshow  Slide 38 - 42.



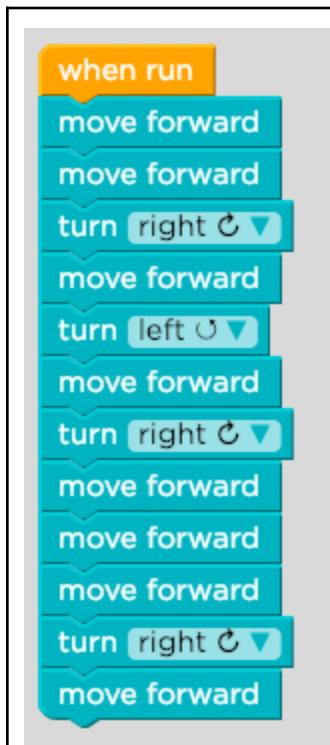
STUDENT ADDITIONAL ACTIVITY

Student Initiates Screen Share

Let's try some more challenging activities.

[Additional Activity 1-ANGRY BIRDS](#)

Solution A1



Solution A2



[Additional Activity 2-ANGRY BIRDS](#)



In the class we moved our character left, right, and forward. But in these activities we will be moving our actor left, right, up, down, and also provide how many pixels it should move. A pixel is the smallest unit of the digital screen.

Blocks: This section has all the coding blocks I need to solve the puzzle. I simply drag the required block from the respective sections and drop it in the workspace section in the sequence of execution.

Blocks
Actions
Events
Loops
Math
Logic
Functions
Variables
Games/Score

Workspace: This is where I will arrange all the code blocks in sequence one below the other. Basically one block means one action.

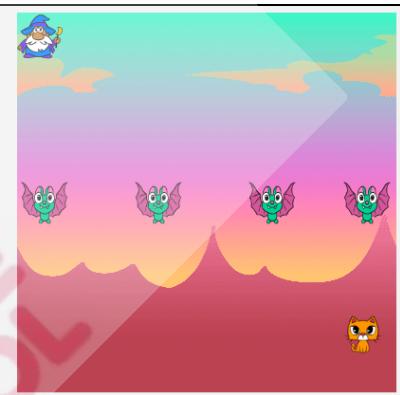
Workspace:

Output: This is where you will see the output of your code in action on top left.

[Additional Activity 3 - Maze Runner 1](#)

[Remix](#)

Click [Remix](#) to start coding.



Given Code:

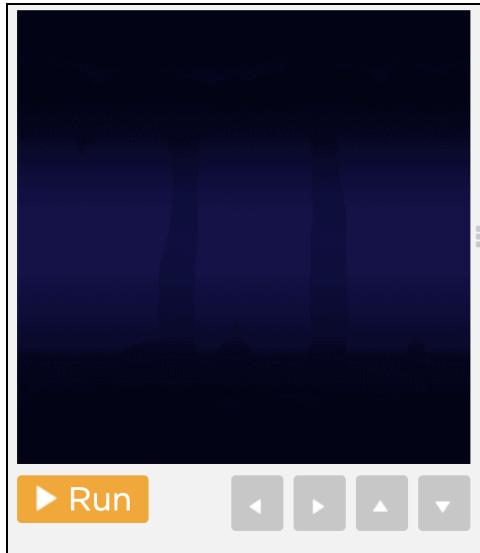
```

when run
set actor [1] to a wizard v image
set actor [2] to a cat v image
set cloudy v background
MAZE edit
Level [1]

when actor [1] collides with any [bat v]
set [actor 1] to touched bat
---- edit

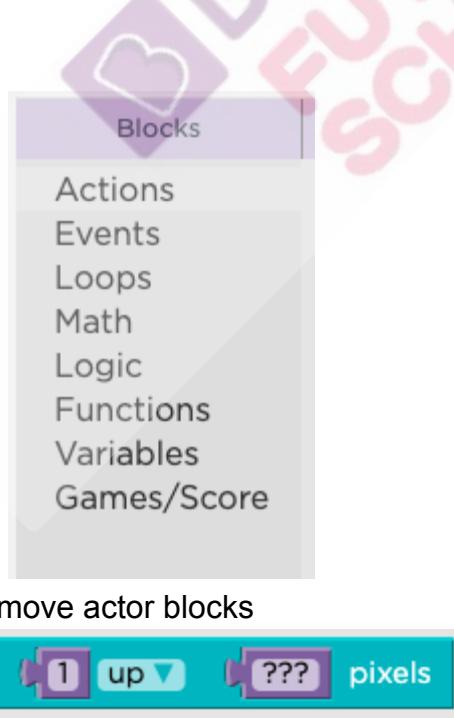
when actor [1] touches [actor 2 v]
---- edit
  
```

Output -



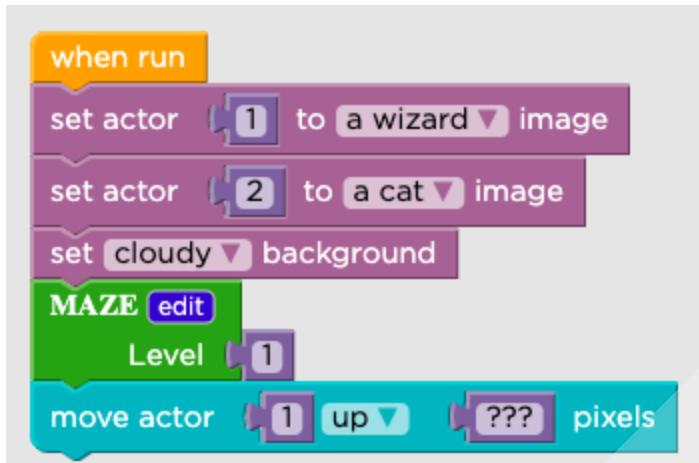
In this activity help the wizard to reach to the cat and rescue the cat.

Solution for AA 3 :



- Go to Actions
- And drag the move actor blocks
- And add move blocks after MAZE LEVEL BLOCK

like this -



- Then set the direction by click on the drop down

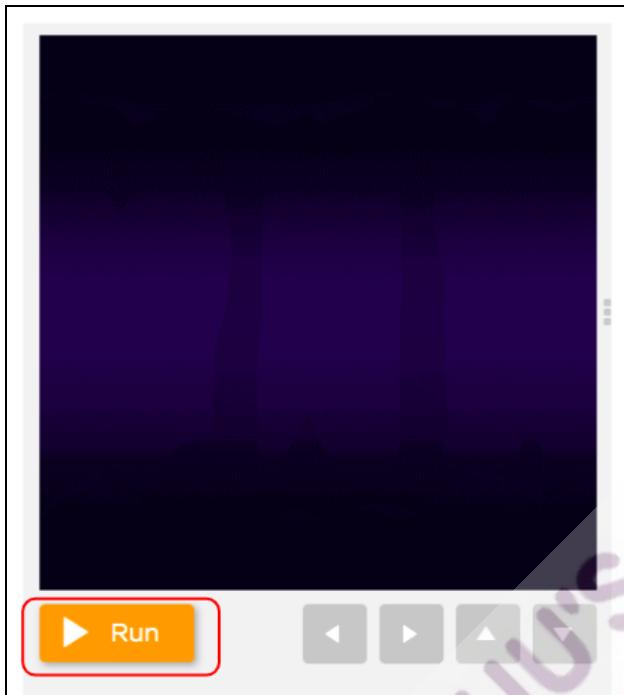


, and set how many pixels you want the actor 1 to move, such that actor1(**wizard**) reaches near car, and helps cat to rescue

Code -



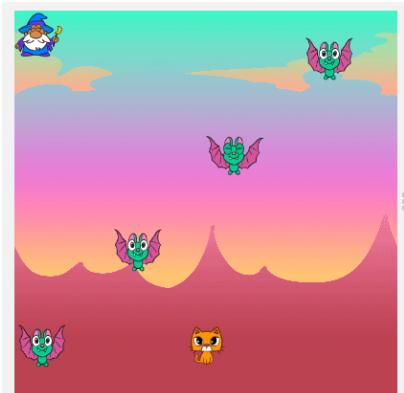
Then click **RUN** to execute the code.

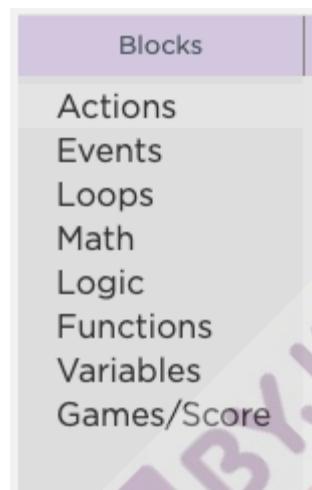


In this activity help the wizard to reach the cat and rescue the cat. But this time the difficulty level has been increased.

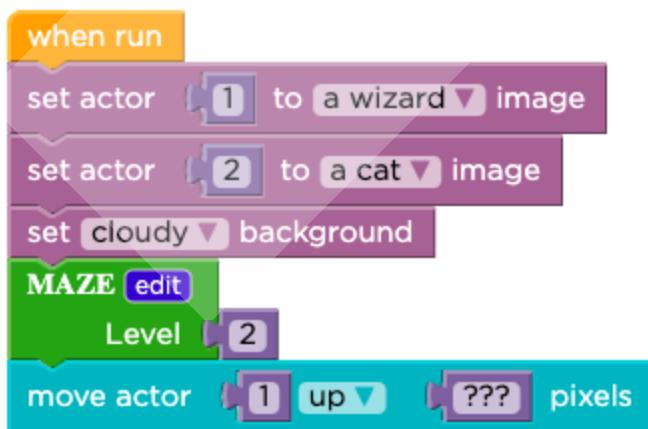
[Additional Activity 4-Maze Runner 2](#)

Click  to start coding.




Solution for AA 4:


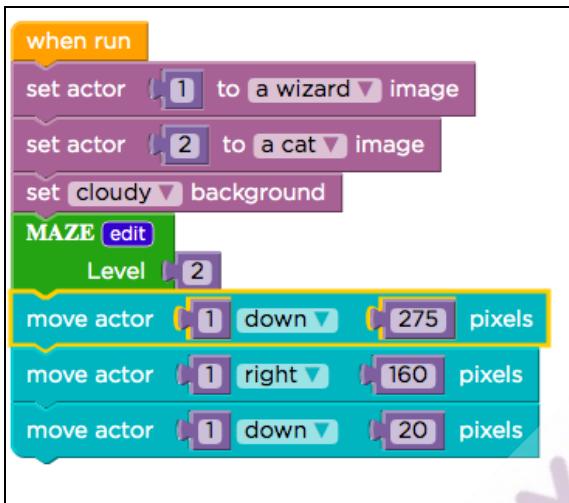
- Go to Actions
- And drag the move actor blocks
- And add move blocks after MAZE LEVEL BLOCK like this -



- Then set the direction by click on the drop down , and set how many pixels

you want the actor 1 to move, such that actor1(**wizard**) reaches near car, and helps cat to rescue

Code -



Activity No.	Name of the Activity	Links
Teacher Activity 1	ANGRY BIRDS	https://studio.code.org/s/coursec-2023/lessons/3/levels/2
Teacher Activity 2	ANGRY BIRDS	https://studio.code.org/s/coursec-2023/lessons/3/levels/4
Teacher Activity 3	ANGRY BIRDS	https://studio.code.org/s/coursec-2023/lessons/3/levels/6
Student Activity 1	COLLECTING TREASURE	https://studio.code.org/s/coursec-2023/lessons/5/levels/4
Student Activity 2	COLLECTING TREASURE	https://studio.code.org/s/coursec-2023/lessons/5/levels/5
Student Activity 3	COLLECTING TREASURE	https://studio.code.org/s/coursec-2023/lessons/5/levels/8
<u>Student Activity 4</u>	ANGRY BIRDS	https://studio.code.org/s/coursec-2023/lessons/3/levels/9
<u>Student Activity 5</u>	COLLECTING TREASURE	https://studio.code.org/s/coursec-2023/lessons/5/extras?id=134283
<u>Student Activity 6</u>	ANGRY BIRDS	https://studio.code.org/s/coursec-2023/lessons/3/extras?id=134255
<u>Student Activity 7</u>	COLLECTING TREASURE	https://studio.code.org/s/coursec-2023/lessons/5/extras?id=134282
<u>Student Activity 8</u>	CLOWN NOSE FILTER	https://mahdihat791.github.io/clown-nose-filter-web-app/
Additional Activity 1	ANGRY BIRDS	https://studio.code.org/s/coursec-2023/lessons/3/levels/8
Additional Activity 2	ANGRY BIRDS	https://studio.code.org/s/coursec-2023/lessons/3/levels/11
Additional Activity 3	MAZE	https://studio.code.org/projects/playlab/WRuafpk83Ow3Y1AZjtDz77Ak1MmYxN0N88DJ7CPgGME/view

	RUNNER 1	
Additional Activity 4	MAZE RUNNER 2	https://studio.code.org/projects/playlab/xUQmXH8g3JXFVTibVKsPYUui4rnb3ue4GSqHmKUvTeg/view
PRACTICE ACTIVITY 1	PRACTICE	https://studio.code.org/s/aquatic/stage/1/puzzle/1
PRACTICE ACTIVITY 2	PRACTICE	https://studio.code.org/s/aquatic/stage/1/puzzle/2
PRACTICE ACTIVITY 3	PRACTICE	https://studio.code.org/s/aquatic/stage/1/puzzle/3
REFERENCE VIDEO 1	REFERENCE	https://www.youtube.com/watch?v=92sMXSm4dlg
REFERENCE VIDEO 2	REFERENCE	https://www.youtube.com/watch?v=d7e48cYq7uc
REFERENCE VIDEO 3	REFERENCE	https://www.youtube.com/watch?v=_97FJL9Ljdc
Project Solution	DIGITAL NUMBERS	https://studio.code.org/projects/artist/EyadQcMilzT_uXYya-0DvzguLum2b0KUeQQ-W-Q9G2E
Teacher Reference Visual aid link	Visual aid link	https://s3-whjr-curriculum-uploads.whjr.online/a9d92b92-264f-4715-b940-c2a9f9cd6fa7.html
Teacher Reference In-class quiz	In-class quiz	https://s3-whjr-curriculum-uploads.whjr.online/ac74965e-0e83-4a4a-be46-24a9413ab19e.pdf