ADVANCED

NEEMO

INSTRUCTIONS:

Goal of the Project:

In the previous few classes since your last Capstone class, you have learned many concepts and are now ready to design your own game.

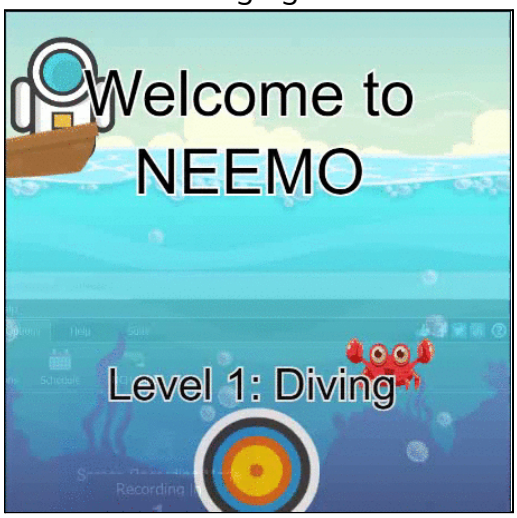
In this project, you will be designing the **NASA Extreme Environment Mission Operations** or the **NEEMO** game.

Story:

NEEMO, the **NASA Extreme Environment Mission Operations** project, is a mission that sends groups of astronauts, engineers, and scientists to live underwater, the world's only undersea research station, for training purposes.

In this game, the spacewalk training phase is covered through three different levels, as follows:

1. **Level 1: Diving Training:**
    - The Astronaut has to **dive underwater** to a specified position **without colliding with** a crab sprite.
    - Refer to the image given below:



2. **Level 2: Spacewalk Simulation:**
    - At this level, the Astronaut has to **walk underwater without colliding** with an octopus sprite.
    - Refer to the image given below:

3. **Level 3: Experiencing Reduced Gravity (Flips):**
    - At this level, the Astronaut has to **flip without colliding** with a fish sprite.
    - **After completing this mission, the game ends**.
    - Refer to the image given below:

Are you ready to create the **NEEMO** game?

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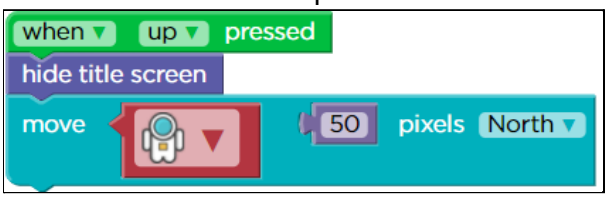
*Click here to see the output video.

Getting Started:

1. Login to **code.org**.
2. Click the following link: **Project Template**.
3. Click the **How It Works** button on the opened **Project Template**.
4. Click the **Remix** button.
5. Rename the project to **Project-1** and click the **Save** button.

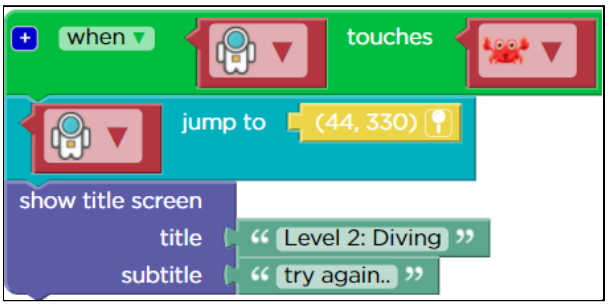
Specific Tasks to Complete the Project:

1. The **background and sprites are set for the Level 1** of the game.
2. Make the Astronaut sprite **move on the screen in all directions** using the arrow keys.

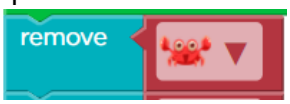


3. Add the **'swimming' behavior for crab sprite** to create complexity in the game.

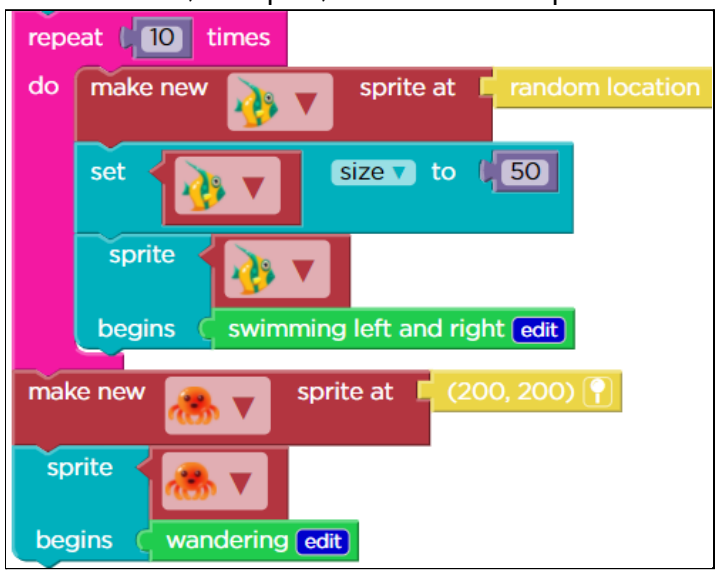
4. Display a **'Try Again'** message, **when the Astronaut sprite is moved to its original position due to a collision between** the Astronaut sprite and the crab sprites.



5. When **the Astronaut sprite touches the target sprite**, create an arena for Level 2.
    a. Remove the crab, boat, and target sprites in Level 2; except the Astronaut sprite.



    b. Set a new background for Level 2.
    c. Create a fish, octopus, and two coin sprites.

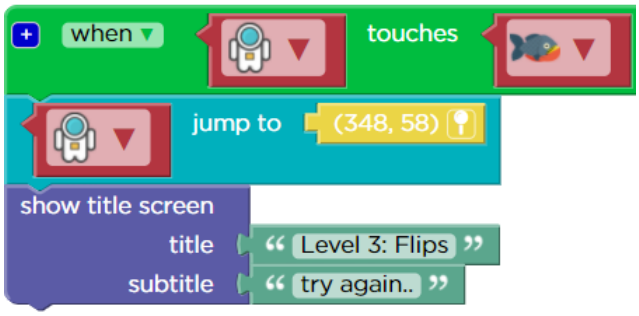


    d. Add a **'fluttering' behavior** for the Astronaut sprite.
    e. Display a message as **"Level 2: Spacewalk Simulation"**.

6. On Level 2, **when the Astronaut sprite collides with an octopus**, the Astronaut sprite goes back to its initial position, and a **"Try Again"** message is also displayed.

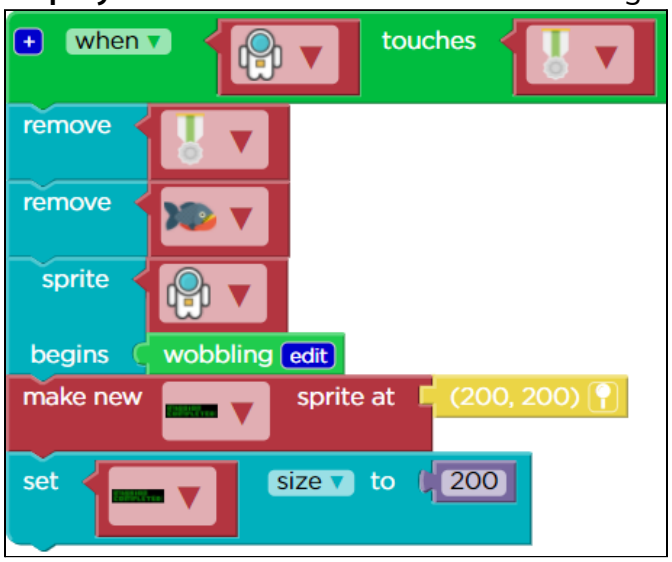
7. When the **Astronaut sprite manages to collect all coins,** create an arena for Level 3. Here, when the Astronaut sprite touches a silver coin, the silver coin disappears and a gold coin appears.
   Also, when the Astronaut touches the gold coin,
   a. Remove the fish, octopus, and coin sprites; except the Astronaut sprite.
   b. Set a new background for Level 3.
   c. Create a batch and shark fish sprite.
   d. Add a **'spinning left' behavior** on the Astronaut sprite.
   e. And display a message as "Level 3: Flips".

8. On Level 3, **when the Astronaut sprite collides with a fish sprite**, the Astronaut sprite goes back to its initial position and a **"Try Again"** message is also displayed.



9. When the **Astronaut sprite manages to collect the batch,** finish the game.
   a. Remove the batch and fish sprites; except the Astronaut sprite.

b. **Display** a **“MISSION COMPLETED”** message.



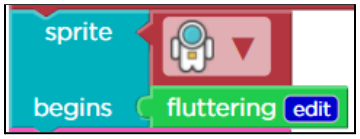
10. Click **Run**, to check if the code is working correctly.

Submitting the Project:

1. **SAVE** all the changes made to the project.
2. Click the "**SHARE**" button to generate a shareable link.
3. Copy this link and submit it on the **Student Dashboard > Projects** panel against the correct Class Number.

Hints:

1. Use the appropriate blocks to set the behavior for the sprite.



2. Use the **‘repeat’** block to create multiple sprites.

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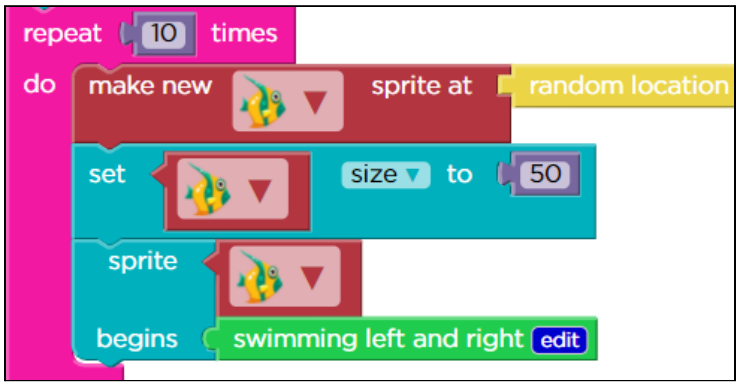

REMEMBER... Try your best, that's more important than being correct.
After submitting your project, the teacher will give you feedback on your project work.

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