LAB TASK 1 : MAZE GAME

Objective:
To create a simple maze game using movement, collision, and goal detection.

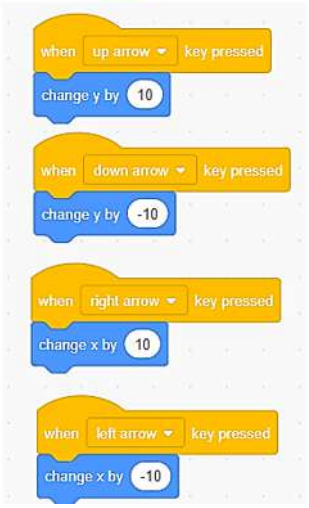
Instructions:

A. Setup

- Choose the **Cat sprite**.
- Select a **maze backdrop** (you can use one from Scratch or draw your own).

B. Movement

- Make the cat move using the **arrow keys**:
  - Use **change x by** for left and right movement
  - Use **change y by** for up and down movement



- If the cat touches the wall:
  - Play a small sound **OR**
  - Say **"Oops!"**
  - Move the cat back a little



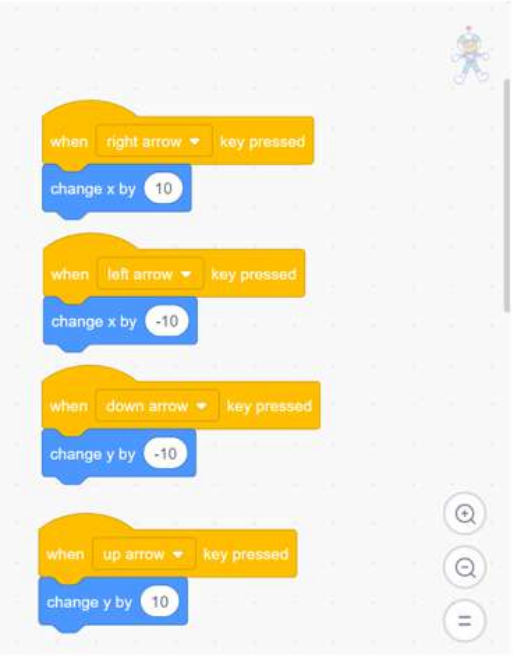
D. Goal

- Add a **goal sprite** (star, coin, or key).
- When the cat touches the goal:
  - Say **"You reached the end!"**
  - Use **stop all** to end the game
  -



LAB TASK 2 : CATCHING THE STARS

- Add a sprite to act as the hero/player (e.g., cat, person, or robot).
- Program the player to move using arrow keys:
    - Left/Right using change x by
    - OR Up/Down using change y by



. Star Sprite

- Add a Star sprite.
- Make the star appear in a random location when the game starts. (Use go to random position or go to x/y pick random)



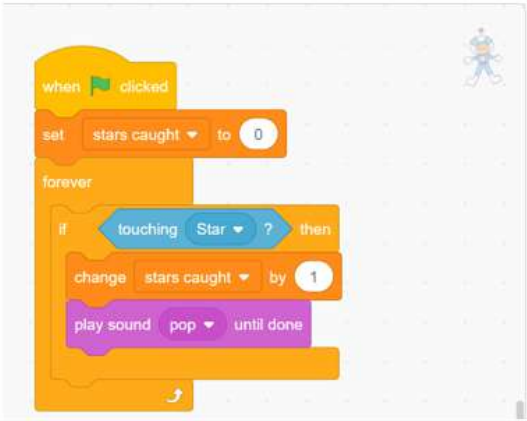
C. Catching the Star

When the player touches the star:

- Play a sound (e.g., "ding!") OR display a message ("Caught!").
- Move the star to another random position on the stage.

D. Star Counter

- Create a variable called Stars Caught.
- Set it to 0 when the green flag is clicked.
- Increase the variable by 1 each time the star is caught.

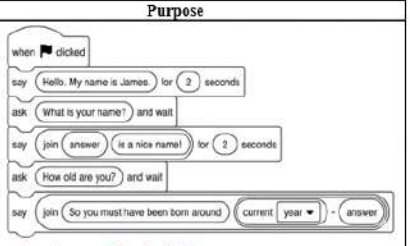


LAB TASK 3: DEVELOPING AN INTERACTIVE CHATBOT

Part A: Code Analysis

Examine the script provided in the source file chatbot example.

Part B: In the table below, explain the function of each block in the sequence

Block	Purpose
When Green Flag Clicked	Starts the  program when the green flag is clicked.
Say [Hello...] for 2 seconds	Displays a message "Hello…" for 2 seconds.
Ask [What is your name?]	Prompts the user to enter their name and stores it in the answer variable.
Say (join [answer] [is a nice name!])	Shows a message combining the user's answer with "is a nice name!".
Ask [How old are you?]	Prompts the user to enter their age and stores it in the answer variable.
Arithmetic (-) Operator	Subtracts one number from another.

2. What happens if you type an integer (number) as a response for the string (name) question?

Scratch will accept the number and treat it as text. Example: If you type 12 as your name, Scratch will say "12 is a nice name!" and it works fine.

---

3. Locate the arithmetic operator block. Explain how it works:

In this program, we use the **minus (-) operator** to find the year of birth.

How it works here:

- We take the **current year** (like 2026) and subtract the user's **age** (the answer from the question).
- Example: If someone types 10 as their age, the block calculates: 2026 - 10 = 2016.
- This tells us the person was born in **2016**.

Part D & E: Programming Challenges

Modify your chatbot to perform the following tasks. Tick the boxes once completed:

- Personalization: Change the sprite's name and add a custom greeting.
- Mathematical Logic: Change the operator so the cat tells the user how old they will be next year (Hint: Use the + operator).
- New Feature: Create a version that asks for a number between 1 and 10 and responds with that number squared (Number × Number).