Stepping Stone:

You need to know...

- what an algorithm is and how it helps in programming.
- How to actuate a servo motor using a pushbutton.
- The concept of "Arrays" in coding the Arduino.
- How to Code and record the movement of the robotic arm.
- How to Code the servo motor to sync it's movement with the Arduino.

You will be able to...

- Understand the Concept of Algorithm in IFTHEN-ELSE Condition.
- Understand what is Python and how it is used for programming.
- Explain what Tkinter is and how it can be used to create graphical interfaces.
- Design the layout of their GUI with buttons and sliders.
- Code the GUI using Tkinter to include controls for moving the robotic arm.

let's Think

Should we develop a computer program to control the robotic arm? How would this benefit factory operations?

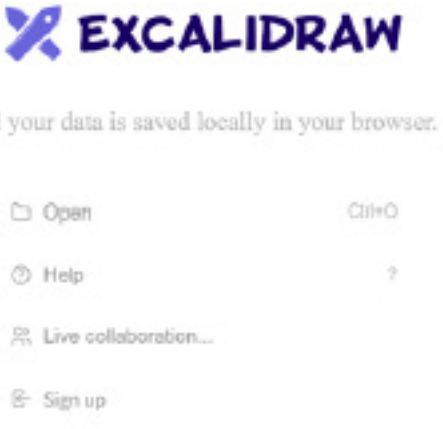
Explore

do it

Imagine how your program will function and what it will look like.

Then, use the provided software to sketch its user interface.

https://excalidraw.com/



Scan Here!

Watch it..

Let's click on the link and understand more about how can we create a GUI to control the robot arm.

Scan Here!

https://www.youtube.com/watch?v=Q3r_VhD99hs

Assessment

Focus

1. How can "IF-THEN-ELSE" conditions make your robotic arm smarter?

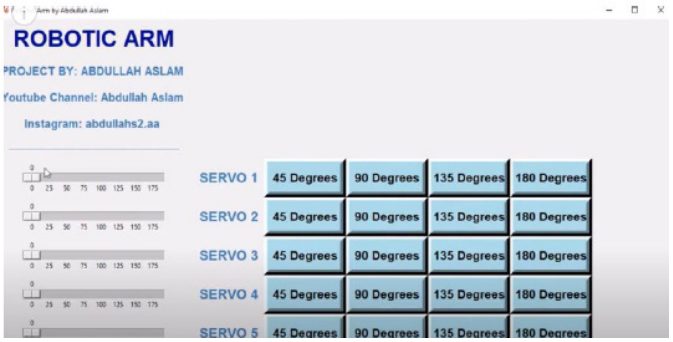
A) By making the arm heavier.
B) By allowing the arm to follow specific instructions based on conditions.
C) By making the arm move faster.
D) By increasing the arm's battery life.

2. How can you record and control your robotic arm's actions through code?

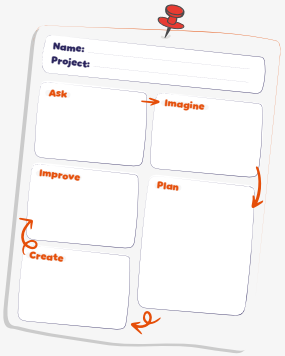
A) By writing a program that tracks and executes specific movements.
B) By using a pencil to draw the movements.
C) By pressing random buttons.
D) By changing the arm's shape.

Practice

Start code your program using python and tkinter.



After we made the program, let's go back to the EDP process and add it to the improve part to add it to our robotic arm.



Now I can...

- Understand what is Python and how it is used for programming.
- Explain what Tkinter is and how it can be used to create graphical interfaces.
- Design the layout of their GUI with buttons and sliders. Understand the Concept of Algorithm in IF-THEN-ELSE Condition.

Adam and Laila successfully assisted the factory workers by developing a fully functional robotic arm that can be controlled via a computer program.

The chief engineer expressed his gratitude to them for their outstanding effort today.