**Robot Builder**

**Concepts Learned:**

* **Functions**: The rectangle() function is used to draw various shapes, teaching students how to create reusable code blocks.
* **Turtle Graphics**: Using the turtle module introduces visual programming and graphical representation through code.
* **Loops**: The for loop within the rectangle() function demonstrates iteration for repeated actions.
* **Parameters**: Passing parameters like horizontal, vertical, and colour to the function teaches parameterization and flexible design.
* **Pen Control**: Functions like pendown(), penup(), begin\_fill(), and end\_fill() control the drawing, introducing students to detailed control over turtle behaviour.
* **Coordinate Systems**: Using goto() to move the turtle to specific coordinates teaches coordinate-based movement.
* **Colour Manipulation**: Setting colours with t.color() and t.bgcolor() teaches how to manage and apply colours in visual outputs.

**Key Learning Outcomes:**

* **Function design**: Develop reusable functions to draw complex shapes by combining smaller, repeated actions.
* **Graphics programming**: Gain hands-on experience with visual programming through turtle graphics, enhancing spatial understanding.
* **Iteration**: Use loops to perform repeated actions efficiently in graphical drawing.
* **Parameter handling**: Learn how to pass and use parameters to create flexible, dynamic functions.
* **Turtle module**: Understand how to control the turtle's drawing tools, such as pen positioning and colour fills.
* **2D coordinates**: Practice positioning objects using x and y coordinates to create structured visual designs.
* **Colour and shape design**: Apply colours and shapes to build visual representations, enhancing creativity and technical understanding.