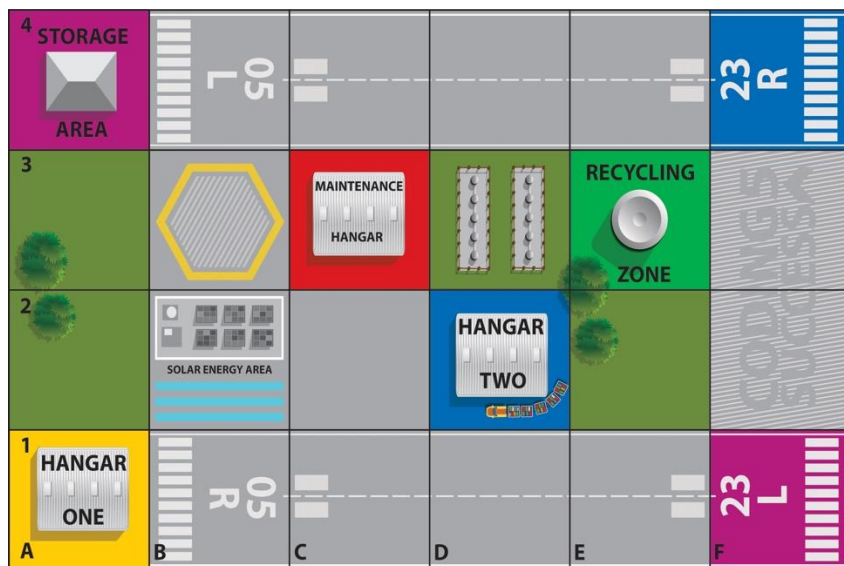


SMART SENSORS!

Detect, clear, collect and deliver!

It's time to take control of your Multi-Mover by coding the colour, distance and gyro sensors! Keep working hard to develop your coding skills as you tackle these mat-based challenges...



ATTACHMENT POSITION (degrees)	UP	MIDDLE	DOWN/TIP
TIPPER BED	0	-	45
BLADE	0	-	88
FORK	310	0	35

A

CHALLENGE A - You need to:

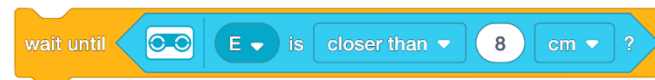
Create a program named: M3A

Place the DEBRIS in either C4, D4 or E4.

Design the program to:

Start at the STORAGE AREA (A4). START the TIMER. Add the BULLDOZER (BLADE) attachment.

MOVE the BULLDOZER with the BLADE in the UP position and detect the DEBRIS. Then lower the BLADE and MOVE the DEBRIS to F2 - a safe place away from the runways. MOVE to the MAINTENANCE HANGAR (C3). DISPLAY TIMER.



B

CHALLENGE B - You need to:

Create a program named: M3B

Place the SOLAR PANEL in A1.

Design the program to:

Start at the STORAGE AREA (A4). START the TIMER.

Add the LIFTER (FORK) attachment.

Detect (using the DISTANCE SENSOR) and collect the SOLAR PANEL from A1. LIFT the SOLAR PANEL up and deliver it to the SOLAR ENERGY AREA (B2) using the COLOUR SENSOR.

MOVE to HANGAR ONE (A1). DISPLAY TIMER.



C

CHALLENGE C - You need to:

Create a program named: M3C

Place the RADAR UPGRADE in the STORAGE AREA (A4).

Design the program to:

START the TIMER. Add the LIFTER (FORK) attachment.

Start at HANGAR ONE (A1).

Detect (using the DISTANCE SENSOR) and collect the RADAR UPGRADE from A4.

Then using the COLOUR SENSOR, deliver it to the MAINTENANCE HANGAR (C3).

Return to HANGAR ONE (A1).

THEN replace the LIFTER (FORK) attachment with the TIPPER BED attachment.

Add the DEBRIS and then deliver the DEBRIS to the RECYCLING ZONE (E3).

MOVE to the STORAGE AREA (A4).

DISPLAY the TIME.



SHOWCASE

It's time to showcase your skills in a timed challenge using TWO Multi-Movers! In this timed challenge, humans AND robots must work together.

USED TYRES in B3 need moving to the RECYCLING ZONE (E3) as quickly as possible, without the USED TYRES touching the mat. Create a program for each Multi-Mover (named **M3S1** and **M3S2**) so that...

MULTI-MOVER ONE:

Starting in HANGAR ONE (A1) add an attachment to Multi-Mover One and then collect the USED TYRES from B3. Move to C2 and transfer the USED TYRES to Multi-Mover Two when it arrives (without the USED TYRES touching the mat). Return to HANGAR ONE (A1) and remove the attachment.

MULTI-MOVER TWO:

Starting in F1, add the TIPPER attachment. Move to C2 where Multi-Mover One will transfer the USED TYRES into the TIPPER BED. Deliver the USED TYRES to the RECYCLING ZONE (E3). Move to HANGAR TWO (D2) and remove the attachment.

HOW TO TIME THE SHOWCASE:

Place each Multi-Mover in its starting position WITHOUT the attachment fitted. Run the code on both robots at the same time, starting each on-board timer and add each attachment. When Multi-Mover One has returned to HANGAR ONE (A1) AND Multi-Mover Two is in D2 - BOTH attachments must be removed. THEN stop the timers and display the times. Good luck!