Spatial Awareness for Object Manipulation

Question

How should the robotic arm maneuver to avoid knocking over the fork while reaching for the pan?

Answer

Multiple-Choice:
A) The robotic arm should move in a straight line towards the pan, ignoring the fork.
B) The robotic arm should *calculate the distance and angle* required to reach the pan without coming into contact with the fork, possibly by moving in a curved path or adjusting its height.
C) The robotic arm should knock over the fork to clear a path to the pan.
D) The robotic arm should wait for human intervention.

Open-Ended: The robotic arm should *calculate the distance and angle required* to reach the pan without coming into contact with the fork, possibly by moving in a curved path or adjusting its height.

Question

How should the robotic arm maneuver to avoid collision with the red container while picking up the metal bowl?

Answer

Multiple-Choice:
A) The robotic arm should move straight towards the bowl without considering the red container.
B) The robotic arm should calculate the spatial distance between the gripper and the red container, then approach the bowl from an angle that allows for a clear path of movement without coming into contact with the container.
C) The robotic arm should wait for the red container to move on its own.
D) The robotic arm should pick up the red container first and then the metal bowl.

Open-Ended: *The robotic arm should calculate the spatial distance between the gripper and the red container*, then approach the bowl from an angle that allows for a clear path of movement without coming into contact with the container.

Object Shape

Question

Identify the shape of the object directly beneath the robotic arm's gripper.

Answer

Multiple-Choice:
A) Square
B) Cylindrical
C) Triangular
D) Rectangular
Open-Ended: The object directly beneath the robotic arm's gripper is a jug, which has a *cylindrical* shape.

Question

Identify the shape of the object to the left of the bananas.

Answer

Multiple-Choice:
A) Square
B) Triangle
C) Round
D) Hexagon
Open-Ended: The object directly beneath the robotic arm's gripper is a jug, which has a *cylindrical* shape.

Question

What is the shape of the object on the plate?

Answer

Multiple-Choice:
A) Circle
B) Square
C) Triangle
D) Steak-shaped
Open-Ended: The object on the plate is steak-shaped.
jug, which has a *cylindrical* shape.