



# CHALLENGE 5

## THE SPHERICAL CHICKEN... AND THE GOLDEN EGGS

### DETAILS

THE FARMER'S PROBLEM: HIS CHICKENS TURN RED AND LAY GOLDEN EGGS - BUT IF THE RED CHICKENS STAY WITH THE OTHER CHICKENS THEY STOP LAYING GOLDEN EGGS. YOU ARE ON THE ROBOTICS TEAM THAT HE HAS CONTACTED TO SOLVE HIS PROBLEM. HE WANTS TO SEE A SCALED DOWN VERSION OF THE ROBOT YOU WOULD USE AND WILL ALLOW YOU TO ASSUME A SPHERICAL CHICKEN, MEANING YOU CAN MODEL IT WITH SMALL SPHERES.

BUILD A ROBOT TO PICK OUT THE RED BALLS OFF THE PROVIDED STAND, ALREADY TO SCALE. THE ROBOT WILL NEED TO USE SENSING CAPABILITIES TO IDENTIFY THE RIGHT COLOR, AND 'GENTLY' PICK IT UP. YOU MAY NOT PUSH ANY BALLS OFF THE STAND.

### THINGS TO KEEP IN MIND

YOUR BOT CANNOT KNOCK OFF THE OTHER BALLS FROM THE STAND

THE CHICKENS ARE TOUGH, BUT DON'T "HURT" THEM, PETA IS WATCHING

### SCORING

[DEMONSTRATION SCORE DOUBLED IF PRIMARY CHALLENGE]

(100) DESIGN AND PROGRAM ALGORITHM

(25) STABILITY

(25) ORIGINALITY

(25) IMPLEMENTED SENSORS AND ADAPTED TO SITUATION

(25) COMPLETED IN TIME FOR SCHEDULED JUDGING

(100) DEMONSTRATION

(55) SUCCESSFULLY REMOVES THE RED CHICKENS

(45) TREATS ALL THE CHICKENS WELL...

THERE IS A 15PT DEDUCTION (MAX 45) FOR EVERY EXTRA BALL YOU DROP OR KNOCK OFF THE TRACK