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//Rough Draft of psuedo code for micro mouse

/*
orientation - 2bit variable that holds the direction the mouse is facing
horizontalPosition = which row the micromouse is in 1-16
verticalPosition = which column the micromouse is in 1-16
Walls[256] =
*/

//Function to pull data from the IR phototransistor on the side indicated
//Left = 1, Front = 2, Right = 3
checkIR(side)
{
 analog = read(IR side pin)
 convert analog to digital
 return digital
}

//Activates Moter until the current gyro reading equals gyro
//Motor = 00 runs both, Motor = 01 runs Right, Motor = 10 runs Left, Motor = 11 runs left forward right reverse
runMotor(Motor, gyro)
{

}


//Activates IR emitters and reads signals from photoresisters
checkIRSensors(iRLeft, iRRight, iRFront, orientation)
 if read(iRLeft)==1
  leftWall = 1
 if read(iRRight == 1)
  rightWall = 1
 if read(iRFront == 1)
  frontWall = 1
 if(leftWall)
  wallLayout[orientation - 1] = 1
 if(frontWall)
  wallLayout[orientation] = 1
 if(rightWall)
  wallLayout[orientation + 1] = 1
 return wallLayout

//Changes the data in the cells to match the read wall layout
updateWalls(northWall, eastWall, southWall, westWall)
 {
  if(northWall)
   horizontalWalls[i] = 1
  if(eastWall)
   verticalWalls[i] = 1
  if(southWall)
   horizontalWalls[i-1] = 1
  if(northWall)
```

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  verticalWalls[i-16] = 1
 }

//From the open walls of the current cell chooses one
findPath(currentCell, adjCells)
 //Algorthm to determine the best path to choose goes here
 //compare open adjacent cell floodFill values and whether youve been there and choose one
 return directionToGo

//Compares the mouse orientation to the direction it wants to go and
//calls turn function to face the correct direction
checkDirection(orientation, directionToGo, gyro)
 //compare orientation and directionToGo
 if(directionToGo == orientation)
  return 0
 if(directionToGo == orientation - 1)
  return leftTurn
 if(directionToGo == orientation + 1)
  return rightTurn
 else return turnAround

//Makes the micromouse turn to face the direction we want to go in
turnLeft(gyro, motor, orientation)
 runRightMotor(gyro - 90)//Turns until gyro reads 90-
turnRight(gyro, motor, orientation)
 runLeftMotor(gyro + 90)//Turns until gyro reads 90+
turnAround(gyro, motor, orientation)
 runRightMotorReverseLeft(gyro + 180)//Turns around

//Begins movement to the next cell and as it moves calls checkIRSensors
moveToNextCell(gyro, motor, currentCell)
 runMotor(00, gyro)//moves forward one cell
 checkIRSensors()//begins checking the walls of the next cell
```