IHF: CODE - PYTHON WORKSHEET 6 - ACTIVITY 2

Challenge - Drawing Shapes - 80 points

1. You must get the Edison car to draw the following shapes: triangle, square, circle, hexagon. (5 points for each correct shape)
2. You must get the car to continuously draw the shape until you press a button to stop the Edison car. (5 points for each shape)
3. You must get the Edison car to draw the following shapes backwards: triangle, square, circle, hexagon. (5 points for each correct shape)
4. You must create the shapes by using the outer angle and continuously draw the shape until you press a button to stop the Edison car. (5 points for each shape)

What you need to know

To drive the car, you use the Ed.Drive() function.

The Drive() function has three input parameters:

- direction - the direction that Edison will drive
- speed - the speed at which Edison will drive
- distance - the number of distance units Edison will travel

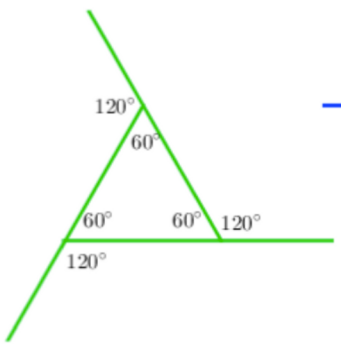
The type of distance units is controlled by the constant that 'Ed.DistanceUnits' is set to in the Setup code. There are three distance units that you can use:

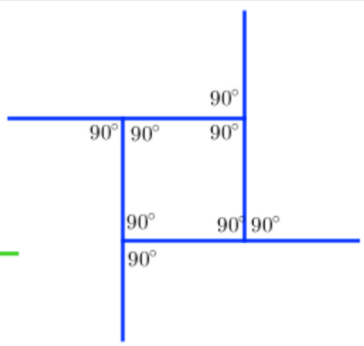
- Centimetres, written as Ed.CM
- Inches, written as Ed.INCH
- Time, written as Ed.TIME

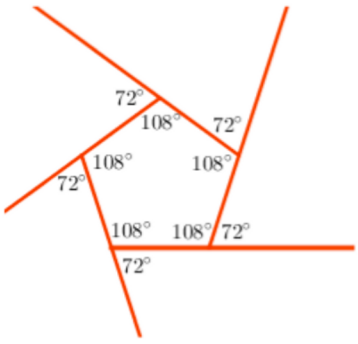
Hint: When creating the shapes, you have to think of the angles you will need to use to drive the car.

ALL THE ANGLES YOU WILL NEED TO KNOW:

Shape	Sides	Sum of Interior Angles
Triangle	3	180°
Quadrilateral	4	360°
Pentagon	5	540°
Hexagon	6	720°







CODING EXAMPLES

To drive the car forward:

```
#------------Setup---------------

import Ed

Ed.EdisonVersion = Ed.V2

Ed.DistanceUnits = Ed.CM
Ed.Tempo = Ed.TEMPO_MEDIUM

#--------Your code below-----------

Ed.Drive(Ed.FORWARD, Ed.SPEED_6, 8)
```

To drive the car backward:

```
#------------Setup---------------

import Ed

Ed.EdisonVersion = Ed.V2

Ed.DistanceUnits = Ed.TIME
Ed.Tempo = Ed.TEMPO_MEDIUM

#--------Your code below-----------

Ed.Drive(Ed.BACKWARD, Ed.SPEED_6, 8)
```

To drive the car forward then backwards:

```
#------------Setup---------------

import Ed

Ed.EdisonVersion = Ed.V2

Ed.DistanceUnits = Ed.CM
Ed.Tempo = Ed.TEMPO_MEDIUM

#--------Your code below-----------

Ed.Drive(Ed.FORWARD, Ed.SPEED_9, 5)
Ed.Drive(Ed.BACKWARD, Ed.SPEED_6,4)
```

To turn the car 90 degrees to the right. To turn the car left change, Ed.SPIN_LEFT.

```
#------------Setup---------------

import Ed

Ed.EdisonVersion = Ed.V2

Ed.DistanceUnits = Ed.CM
Ed.Tempo = Ed.TEMPO_MEDIUM

#--------Your code below-----------
Ed.Drive(Ed.SPIN_RIGHT, Ed.SPEED_7, 90)
```

To drive the car forward to the left. To drive the car forward to the right, Ed.FORWARD_RIGHT.

```
#------------Setup---------------

import Ed

Ed.EdisonVersion = Ed.V2

Ed.DistanceUnits = Ed.CM
Ed.Tempo = Ed.TEMPO_MEDIUM

#--------Your code below-----------
Ed.Drive(Ed.FORWARD_LEFT, Ed.SPEED_7, 10)
```

KPMG

To create a loop that will make the car keep turning right until you press the keypad.

```
#-------------Setup----------------

import Ed

Ed.EdisonVersion = Ed.V2

Ed.DistanceUnits = Ed.CM
Ed.Tempo = Ed.TEMPO_MEDIUM

#--------Your code below-----------
Ed.ReadKeypad()
while Ed.ReadKeypad() == Ed.KEYPAD_NONE:
    Ed.Drive(Ed.SPIN_RIGHT, Ed.SPEED_6, 90)
```