

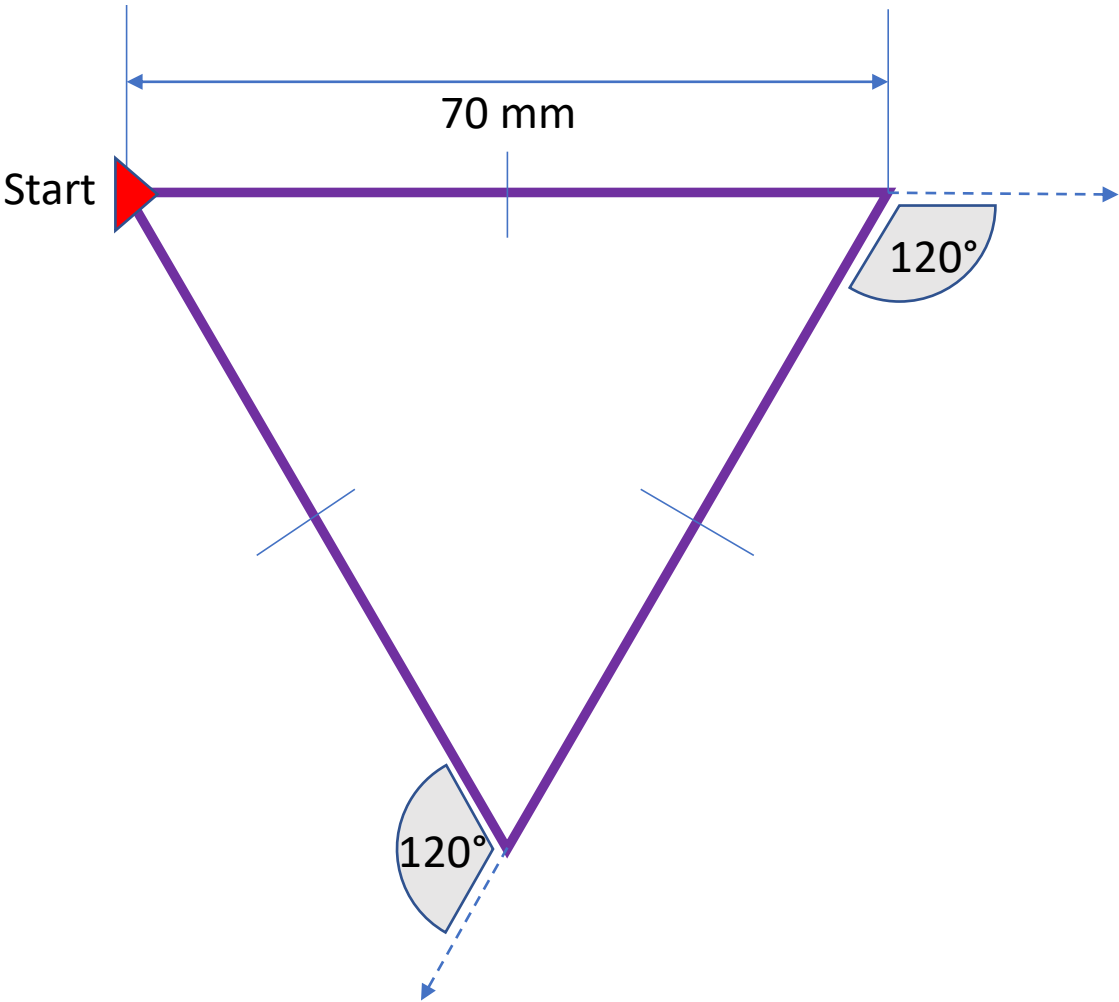
Shapes Programming

Created by

Phil Bagge

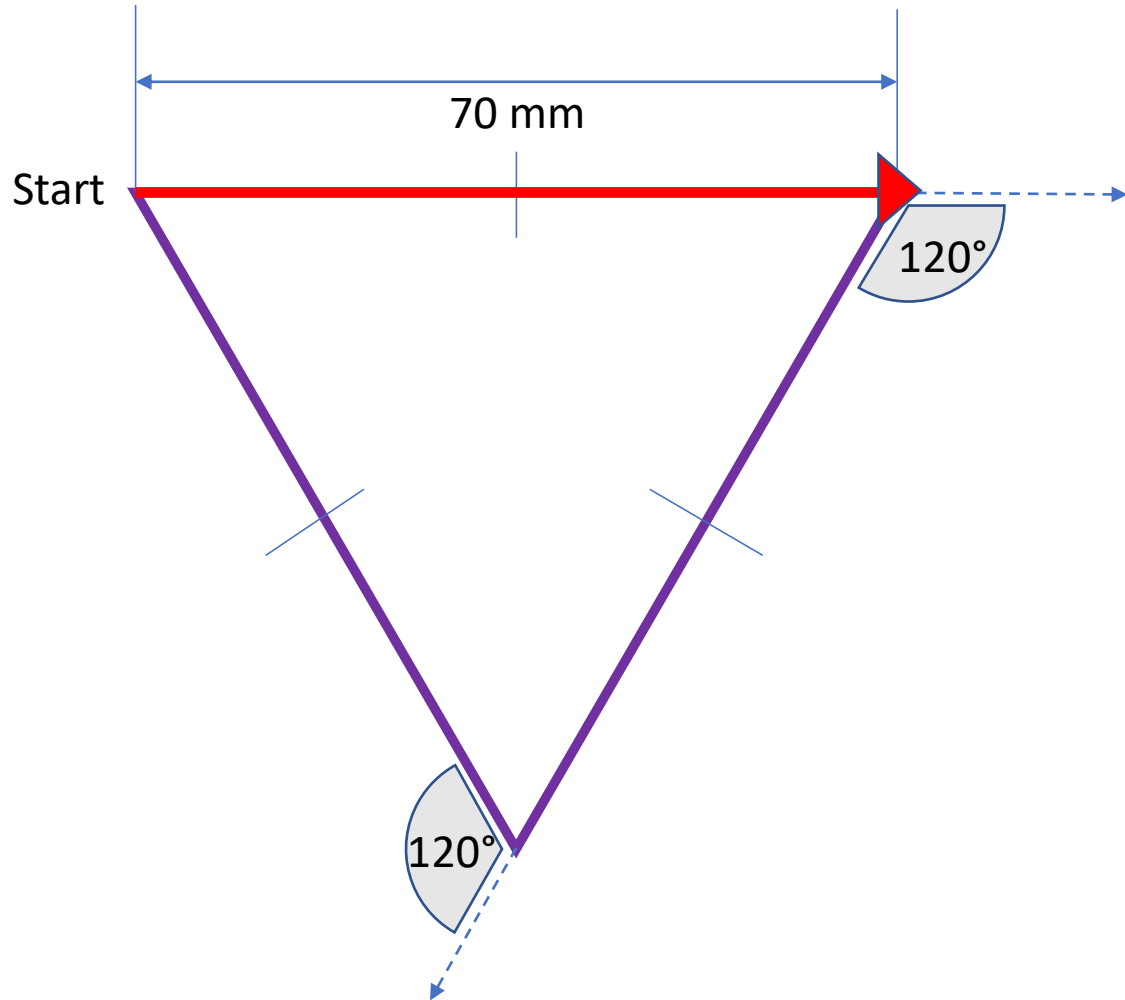
Computing Inspector HIAS

CAS Master Teacher



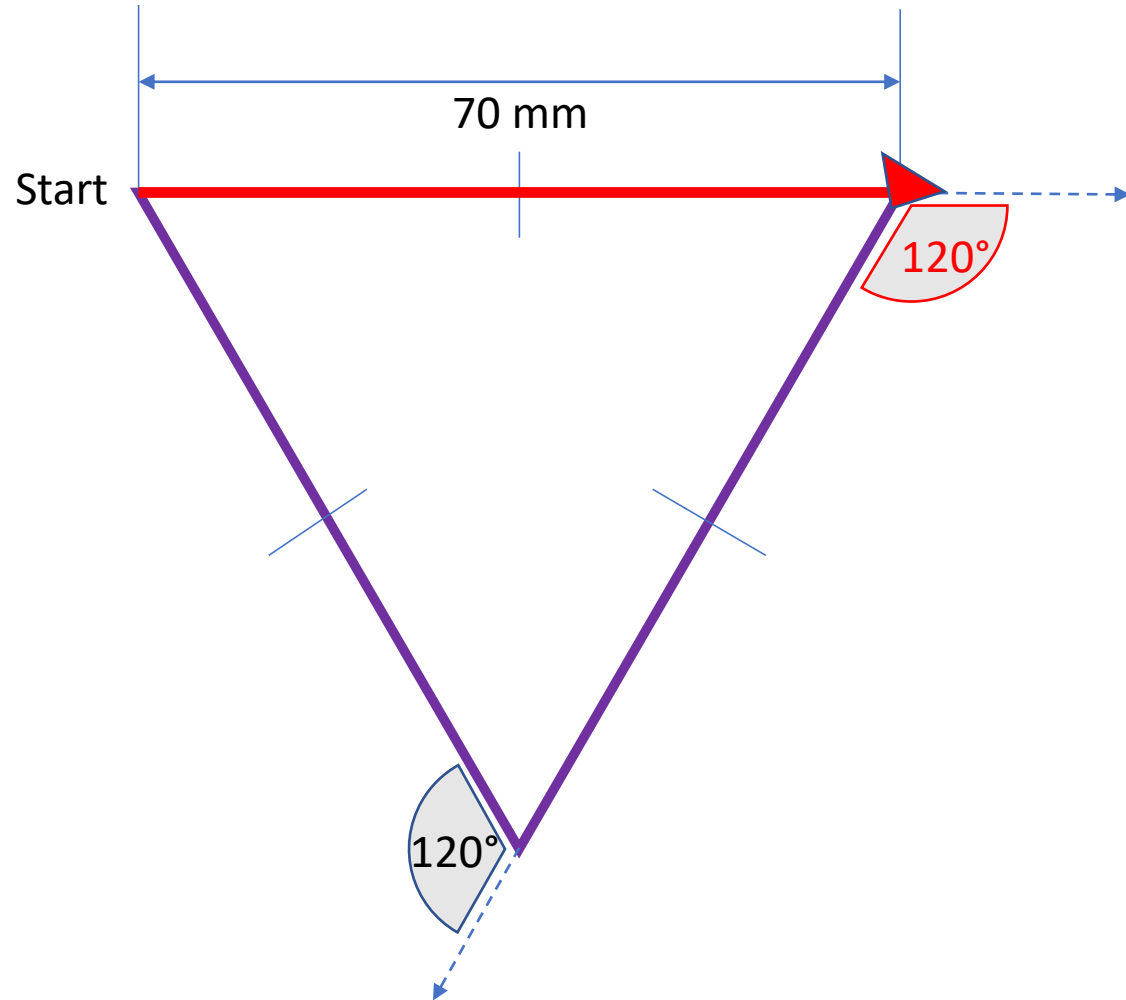
Start

What is the next move?



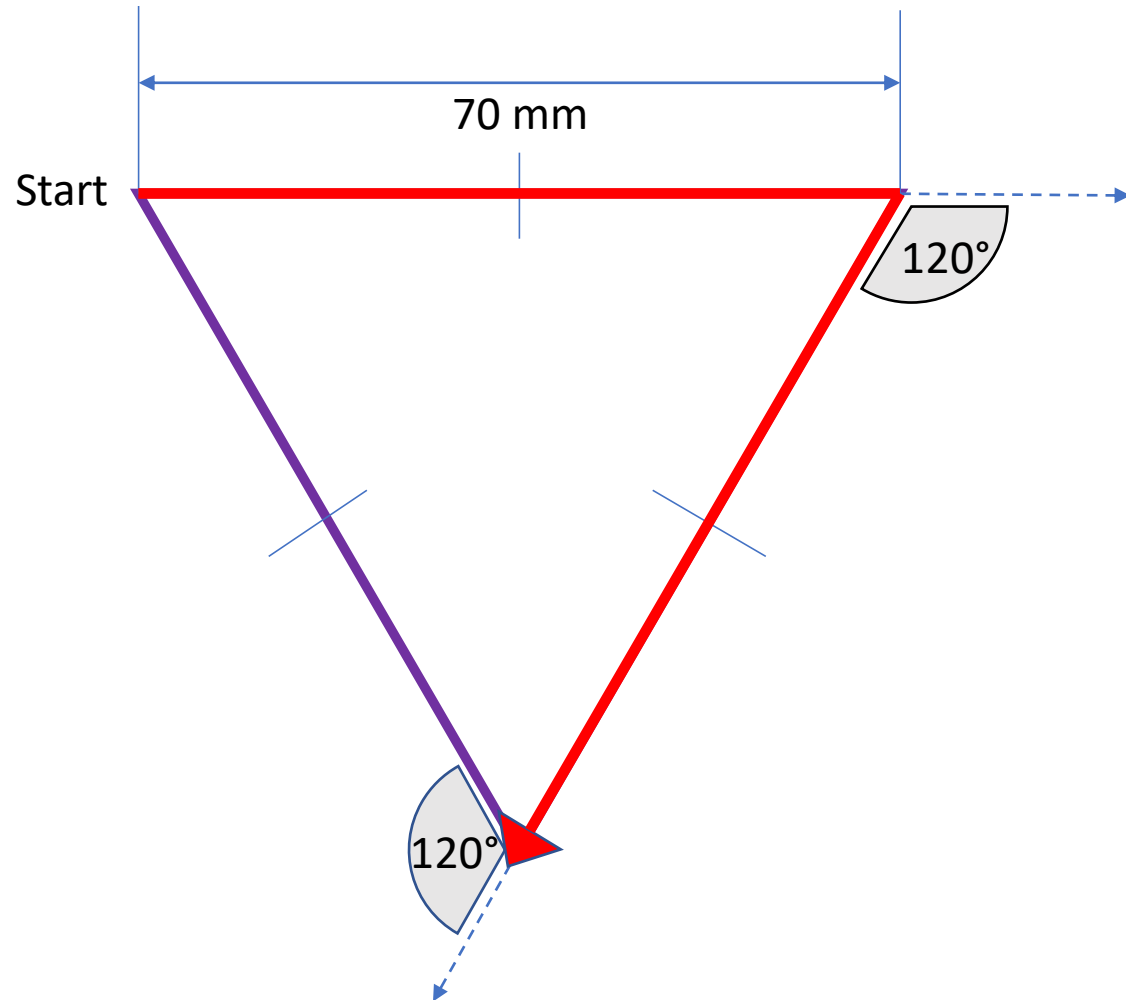
Start
Move 70 mm

What is the next move?



Start
Move 70 mm
Turn Right 120 degrees

What is the next move?



Start

Move 70 mm

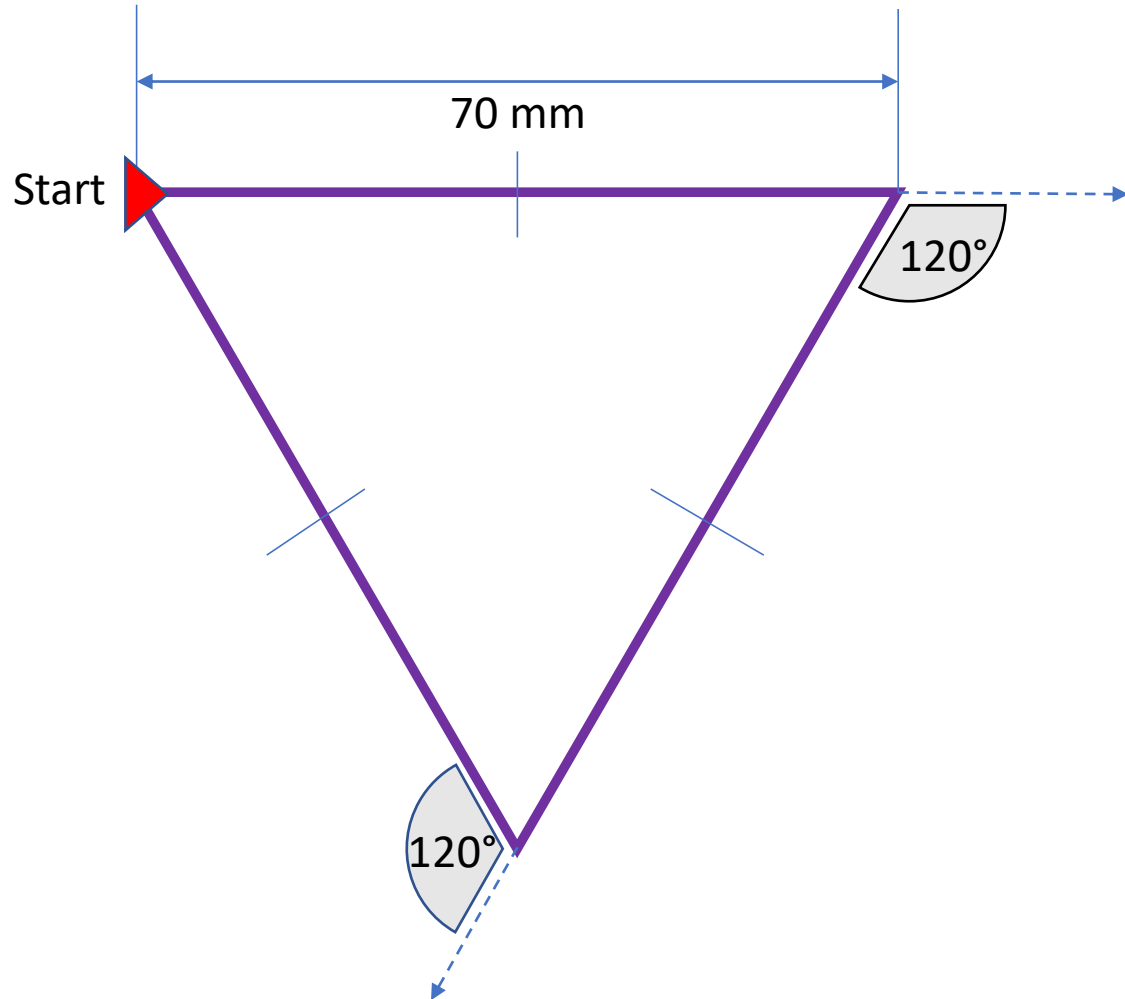
Turn Right 120 degrees

Move 70 mm

What is the next move?

How many more moves to get back to the start position?

Triangle Algorithm



Start

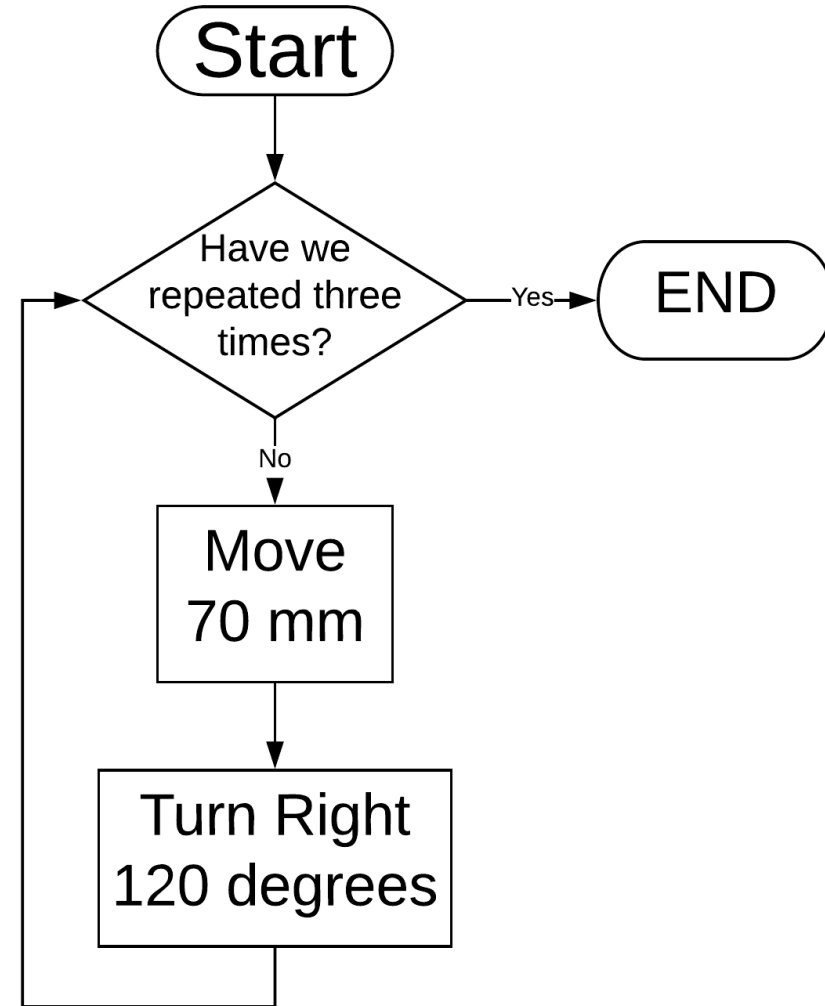
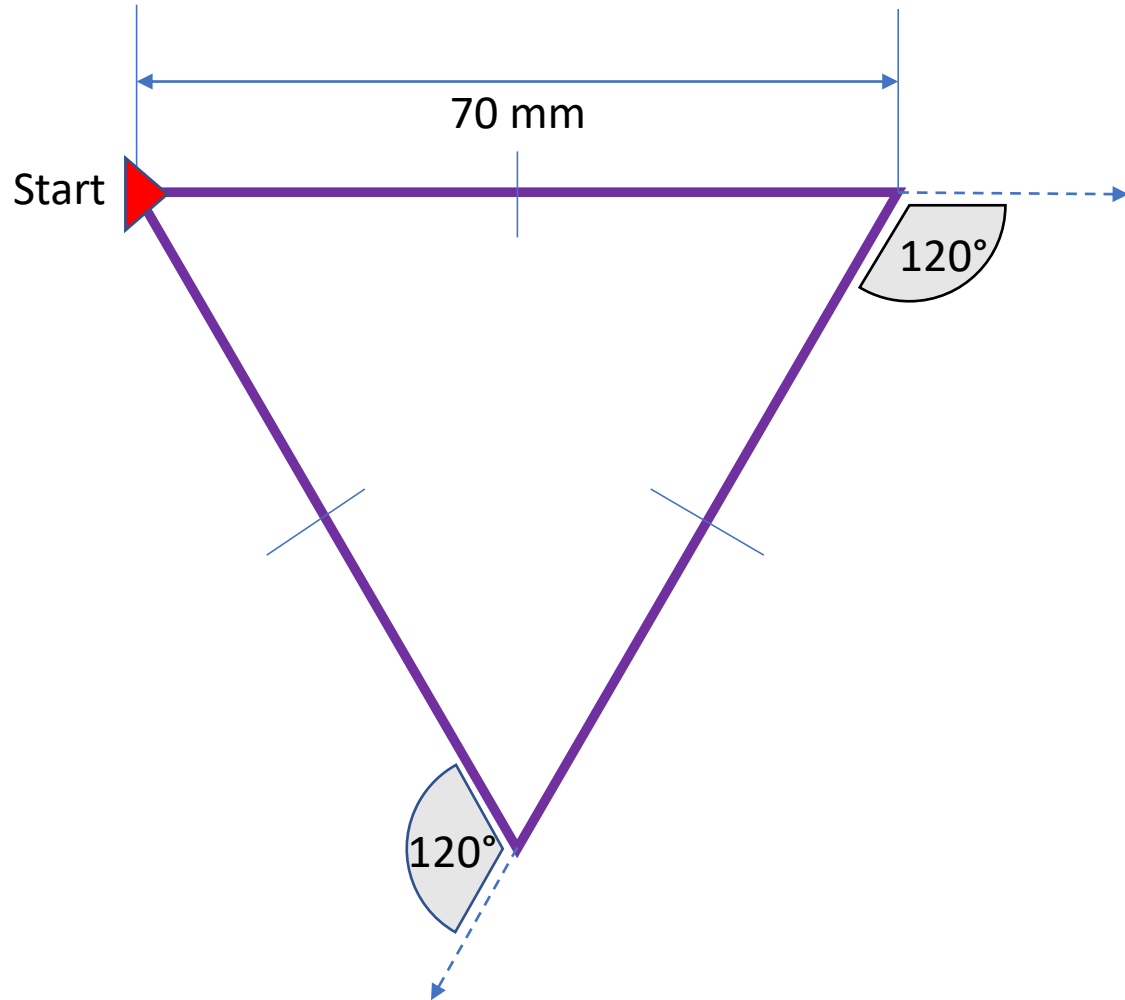
Repeat 3

Forward 70mm

Turn 120mm

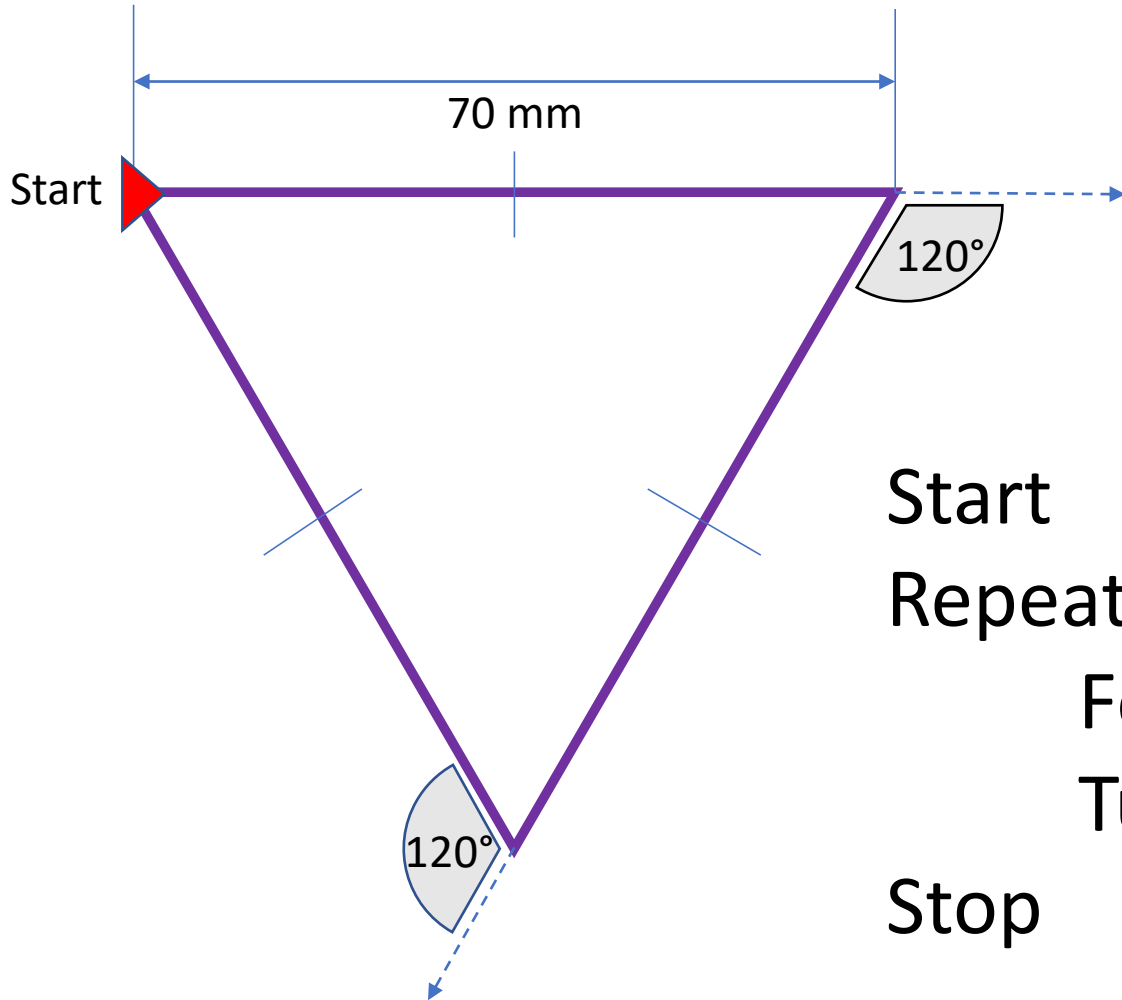
Stop

Triangle Algorithm



Creating a flowchart triangle algorithm using a loop

Any Shape Algorithm



Start

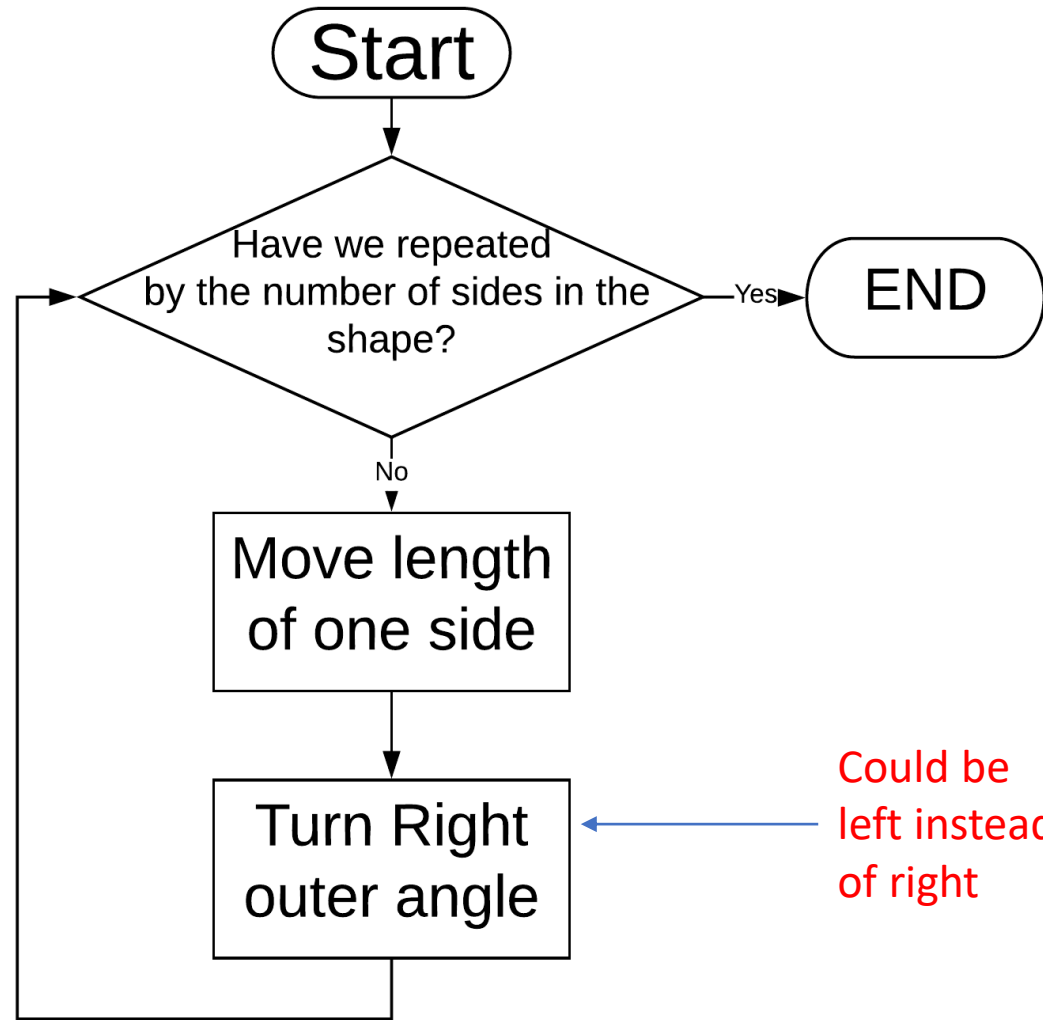
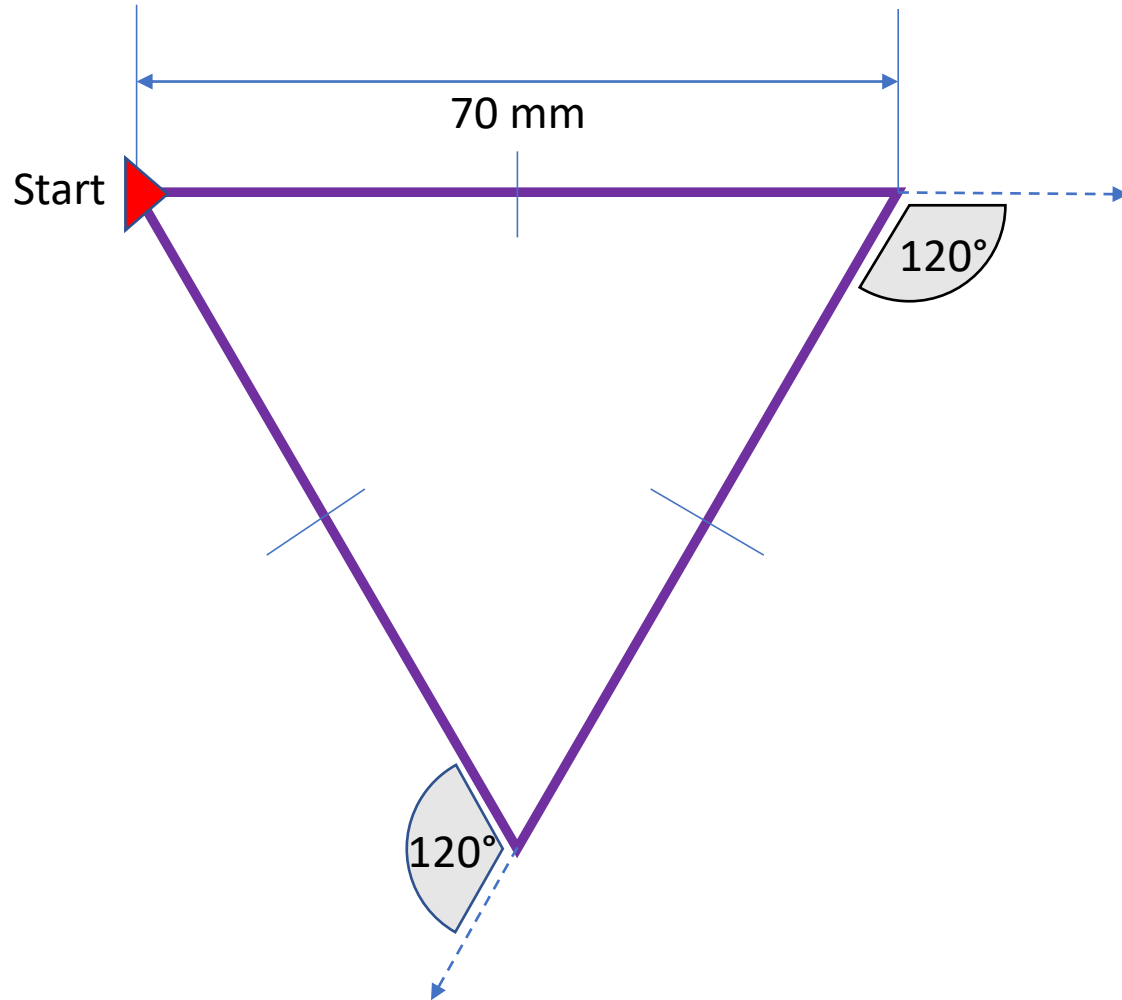
Repeat number of sides in the shape

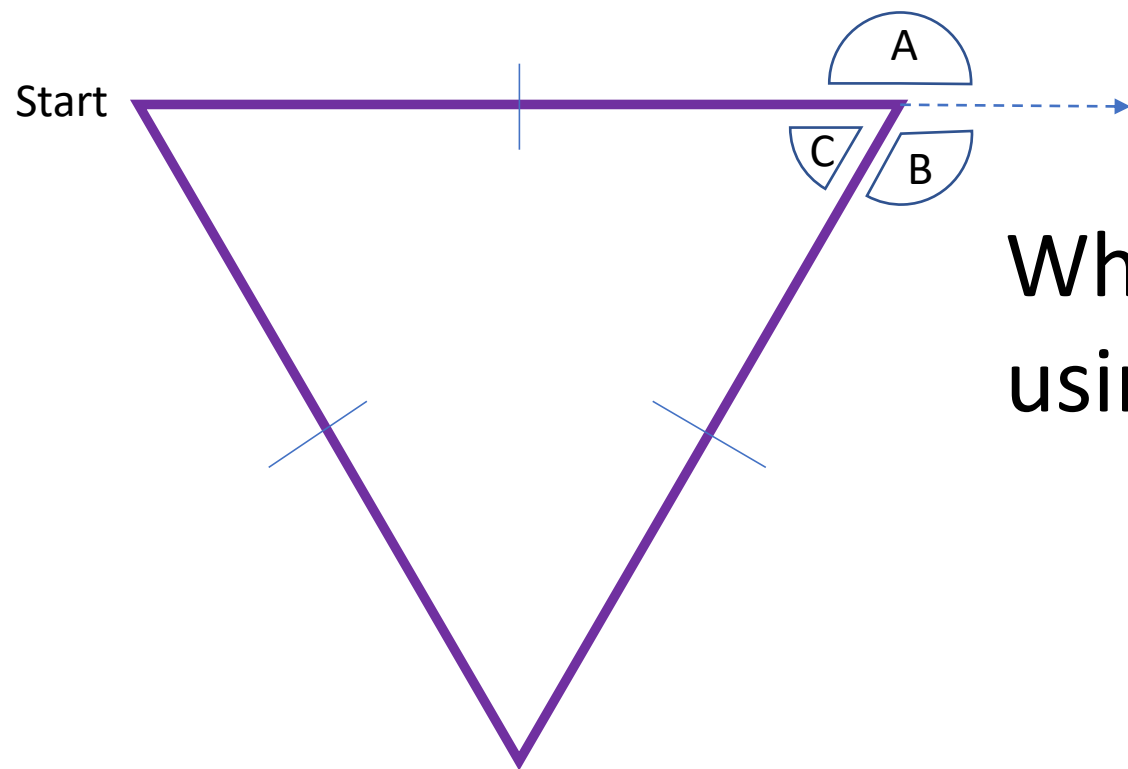
Forward length of one side

Turn outer angle

Stop

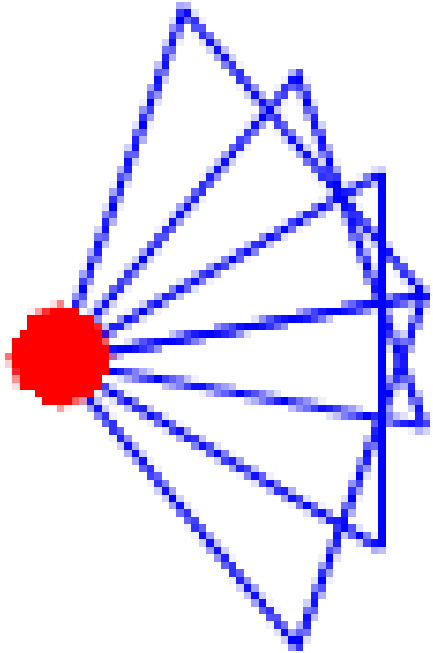
Any Shape Algorithm





Which angle are we using?

Nested Loop Algorithm



Start

Repeat 3

 Turn right 15 degrees

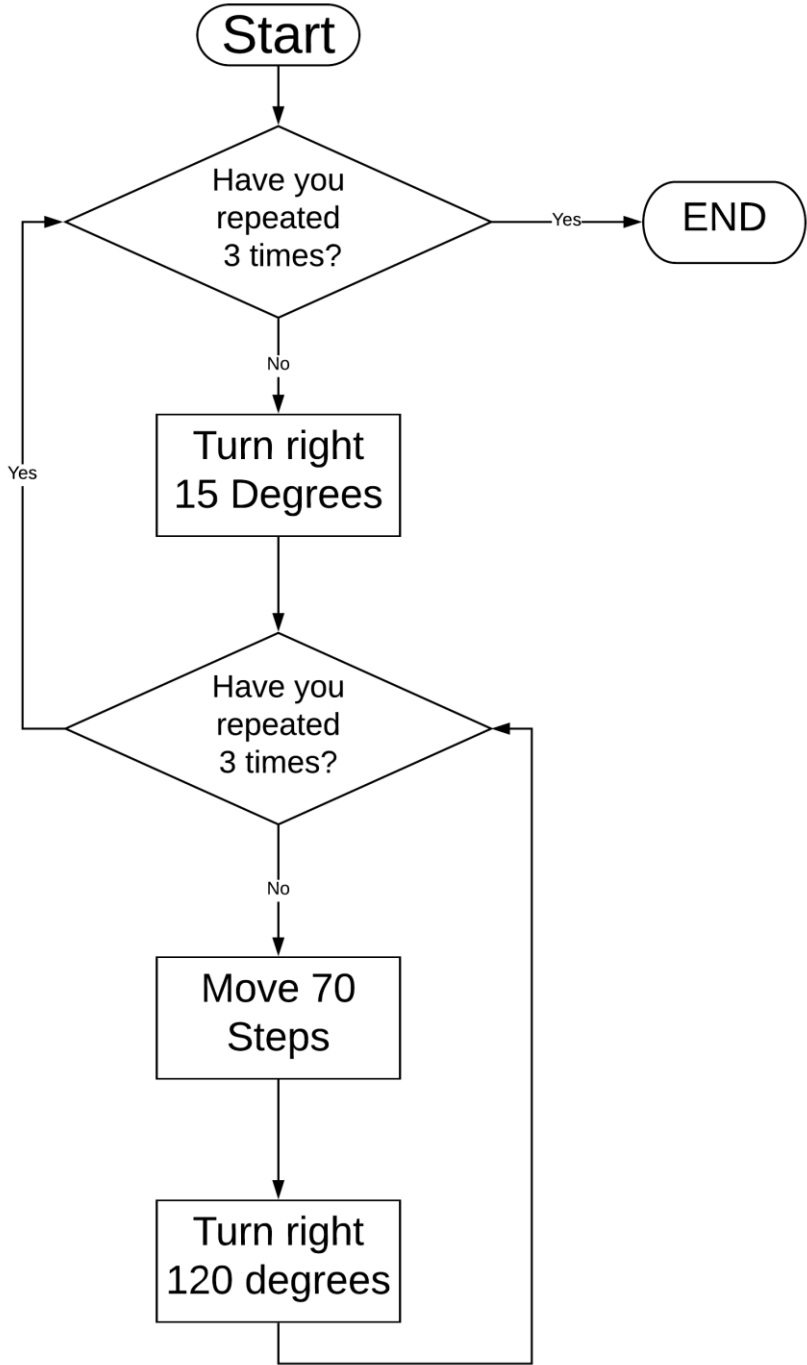
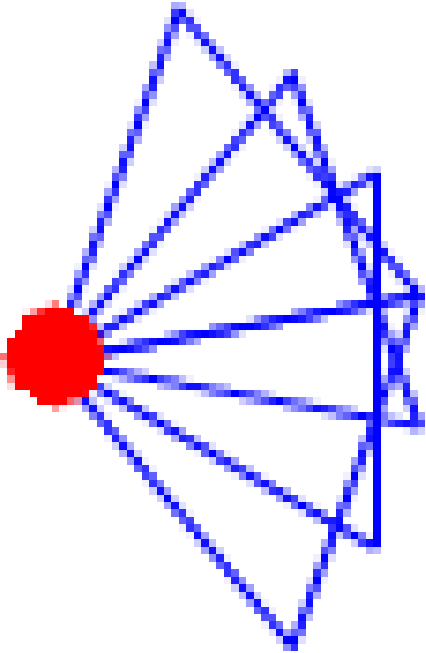
 Repeat 3

 Forward 70

 Turn right 120 degrees

 End

End



Nested Loop Algorithm as a flowchart

Simple Procedure Algorithm

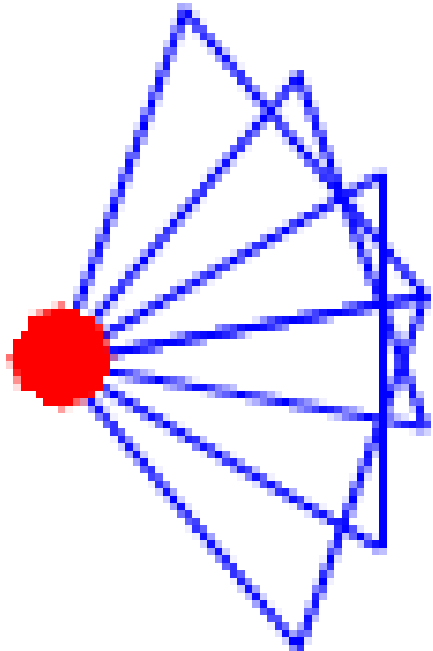
PROCEDURE **Triangle**

Repeat 3

Turn right 120 degrees

Forward 70

End



Start

Repeat 3

RUN **Triangle**

Turn right 15 degrees

End

Complex Procedure Algorithm

PROCEDURE **Shape**

Repeat **sides**

 Turn right **angle** degrees

 Forward **length**

End

Start

RUN **Shape** (sides) **4** (angle) **90** (length) **50**

Complex Procedure Algorithm

PROCEDURE **Shape**

Repeat **sides**

Turn right **angle** degrees

Forward **length**

End

Start

RUN **Shape** (sides) **4** (angle) **90** (length) **50**