**Classifying Triangles**   
**by Side Lengths**

**Master 8a**

**Using a Block-Coding Program**

Follow the link to access the file: What type of triangle?

<https://scratch.mit.edu/projects/552987916/>

Click **See Inside**.   


The code for this application is incomplete.

|  |
| --- |
| **Here is a description of the application:**  ● Cat asks the user to enter the number of EQUAL sides  on the triangle.  ● The application checks to make sure the user doesn’t enter  a value greater than 3. If a value greater than 3 is entered,  it can’t be a triangle.  – If 0 is entered, then the triangle will be scalene.  – If 2 is entered, then the triangle will be isosceles.  – If 3 is entered, then the triangle will equilateral. |

**Classifying Triangles**   
**by Side Lengths** (cont’d)

**Master 8b**

**Using a Block-Coding Program**

Here is the code for the partially completed application:

A picture containing graphical user interface

Description automatically generated

**Classifying Triangles**   
**by Side Lengths** (cont’d)

**Master 8c**

**Using a Block-Coding Program**

Your task is to complete the code for the application:

Complete the **Say** block to indicate the type of triangle   
if the user enters 2 for number of equal sides.

Graphical user interface

Description automatically generated

**Classifying Triangles**   
**by Side Lengths** (cont’d)

**Master 8d**

**Using a Block-Coding Program**

Provide the correct condition for the equilateral triangle   
in the **If** statement shown:

Graphical user interface

Description automatically generated with medium confidence

Icon

Description automatically generated with medium confidence

**Tips:**

● The **conditional operator** blocks ( )   
  
  
can be found under **Operators** ().

● The variable **equalSides** block can be found under   
**Variables** ().

**Classifying Triangles**   
**by Side Lengths** (cont’d)

**Master 8e**

**Using a Block-Coding Program**

Follow the link to access the file: What type of triangle?

<https://scratch.mit.edu/projects/552694138/>

Test out the application by executing the code.

Click the green flag.

What do think this application does?

Graphical user interface, application

Description automatically generated

**Classifying Triangles**   
**by Side Lengths** (cont’d)

**Master 8f**

**Using a Block-Coding Program**

Currently, the application shows if the triangle is obtuse or not obtuse,   
based on the measure of the greatest interior angle.

The greatest interior angle must be greater than a certain measure for   
the triangle to be considered obtuse. What is that measure?

How does the application know that the user has entered a measure   
that can’t possibly be the greatest interior angle?   
Consider what the interior angles in a triangle add to.

Try to make sense of the program by testing different measures   
to see what happens.

**Classifying Triangles**   
**by Side Lengths** (cont’d)

**Master 8g**

**Using a Block-Coding Program**

Follow the link to access the file: What type of triangle?

<https://scratch.mit.edu/projects/552997968/>

Notice that additional conditional statements (**If … then**) have now   
been added, but the program is incomplete.

Graphical user interface, application

Description automatically generated

**Classifying Triangles**   
**by Side Lengths** (cont’d)

**Master 8h**

**Using a Block-Coding Program**

Your task is to complete the code for the application:

A screenshot of a computer

Description automatically generated with low confidence

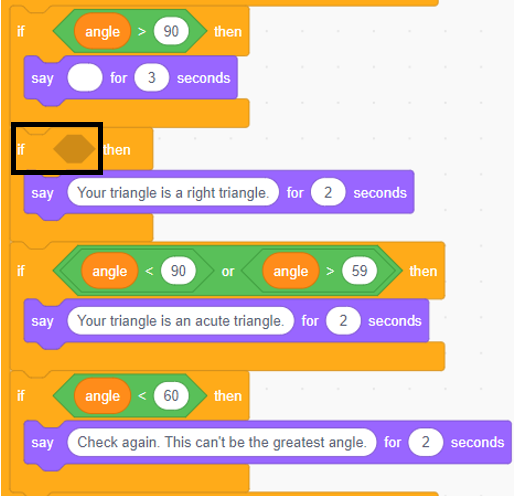
Complete the **Say** block to indicate the type of triangle if the user enters a measure greater than 90 for the greatest interior angle:

**Classifying Triangles**   
**by Side Lengths** (cont’d)

**Master 8i**

**Using a Block-Coding Program**

Provide the correct condition for the Right triangle in   
the **If** statement shown:



Icon

Description automatically generated with medium confidence

**Tips:**

● The **conditional operator** blocks ( )   
  
  
can be found under **Operators** ().

● The variable **equalSides** block can be found under   
**Variables** ().

**Classifying Triangles**   
**by Side Lengths** (cont’d)

**Master 8j**

**Using a Block-Coding Program**

**Challenge A**

Alter the code in the *Classifying Triangles* based on Angles program   
(<https://scratch.mit.edu/projects/552694138/>) so that it determines   
the sum of the other two angles.

**Tips:**

● You will need to use an operator variable to subtract   
the measure of the greatest angle from 180 to determine   
what is left for the other two angles.

Icon

Description automatically generated

● The operators blocks ( ) are located under   
**Operators** ().

● The variable angle block can be found under **Variables** ().

● You can output this information using a **Say** block,   
found under **Looks** ().

**Classifying Triangles**   
**by Side Lengths** (cont’d)

**Master 8k**

**Using a Block-Coding Program**

**Challenge B**

Alter the code to draw the type of triangle (scalene, isosceles, or   
equilateral) based on the number of equal sides entered by   
the user for the Classifying Triangles by Side Length application.   
(<https://scratch.mit.edu/projects/552987916/>)  
It might take a few tries to draw isosceles and scalene triangles   
so that they are closed completely.

**Challenge C**

Alter the code to draw each type of triangle (right, obtuse, or acute)   
based on the angle entered by the user for the *Classifying Triangles by Angle* application (<https://scratch.mit.edu/projects/552997968/>).

It might take a few tries to draw the right, obtuse and acute triangles   
so that they are closed completely. You do not have to draw the exact   
triangles based on the greatest angle measures, but be sure to draw   
examples of each type of triangle.

**Self-check in**

What have you learned about conditions so far?

Did you get stuck? If so, what did you do?

Did you turn to your classmates for help? If so, how did they help?

What are you doing to help the learning of others?

This is “hard fun.” What do you think we mean by “hard fun”?   
What other activities do you do that are “hard fun”?

Go on “spy walks” to see what your classmates have done.