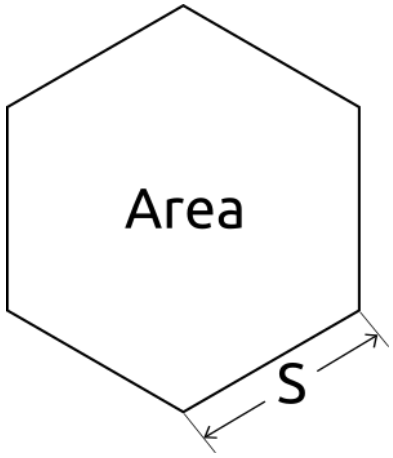
Challenge 2 - Area of a Hexagon

1 Hour



1 The Assignment

In this challenge you must write a Java program called *Hexagon* that calculates the area of a regular hexagon[1] according to the formula:

$$Area = \frac{3\sqrt{3}}{2}s^2$$

and *prints* the result to the console. You have one hour.

1.1 Hexagon

Write the class `Hexagon` in the file `Hexagon.java`. The main method of the `Hexagon` class must *prompt* the user to enter the length of the side s with the text `Enter the hexagon's side length` followed by a new line. It must then *calculate* the *Area* and *print* the result to the console, followed by a new line. The result *Area* should be `double` precision.

[1] `https://www.wikihow.com/Calculate-the-Area-of-a-Hexagon`

1.2 Math in Java

You can calculate squares and roots using Math functions.

The function `Math.pow(4,2)` returns the result of 4^2, and `Math.pow(2,6)` returns the result of 2^6.

The function `Math.sqrt(4)` returns the result of $\sqrt{4}$, and `Math.sqrt(16)` returns the result of $\sqrt{16}$.

1.3 Sample Input/Output

```
Enter the hexagon's side length
6
93.53074360871936


Enter the hexagon's side length
2
10.392304845413264
```

1.4 Tips

- Remember that your class names needs to be exactly the same as the name of the files in which they were defined.
- Every String that is printed must end with a newline character.
- The `System.out.println` method automatically appends a newline character to the string it prints.
- Make sure that your console output matches the Sample Input/Output - you may have trouble with the `'` symbol if you copy-paste from this document. Rather type the prompt yourself.
- Do not include any `package` declarations in your submission file.

2 Submitting to the Autograder

1. Complete your assignment, making sure your program's output matches the expected output stipulated by the assignment brief.
2. Make sure that your program compiles and runs without any errors. You will be marked for correctness only.

3. Create a `zip` file containing your `Hexagon.java` file.
4. Upload the `zip` file to Athena.
5. The autograder will close at 12:10