CS 200: Faking It

Lecture Notes - Instructor Version

Kyle Burke

December 1, 2016

Welcome to the class!
⟨ Go over Syllabus. ⟩
Squares are really awesome objects. I love them!

Q:	Does anyone else love squares?

Q:	How many sides are in a square?
A:	Four.

Q:	What's another kind of shape with four sides?
A:	All okay: Rectangle, Rhombus, Parallelogram, Quadrillateral, Kite.

Def: *Square* A *square* is a polygon with four right angles and four sides of equal length.

Example: Square

The following points are corners of a square: $(0, 0)$, $(2, 0)$, $(0, 2)$, $(2, 2)$.

The following code could be used to create a Square object in Java:

```
int sideLength = 4;
Square square = new Square(sideLength);
```

Exercises for 0.0

Exercise 0

(Answer in Appendix)
How many sides does a square have?

Exercise 1

If one side of a square has length 1, what is the total perimeter of that square?

$\leftrightsquigarrow$ *HOMEWORK* : Chapter 0, Section 0, Problems: 0, 3, and 5. $\leftrightsquigarrow$

0.1 Acknowledgements

Thanks to all the students I've had who have put up with annoying versions of these notes. Sorry! Thanks for persisting through it!

Thanks also to the authors of the LaTeX exercise package[1]. This made it possible for me to create the commands that add exercises. Extremely helpful!

I got lots of help from the TeX stack exchange. Thanks to all the people who responded to my questions about using environments inside a phantom command[2] and about how to use optional parameters in commands[3].

A Answers to Exercises

Answer of exercise 0.0.0

A square has four sides.

Answer of exercise 0.0.1

[1] https://www.ctan.org/tex-archive/macros/latex/contrib/exercise
[2] http://tex.stackexchange.com/questions/229411/can-i-use-phantom-to-hide-a-latex-environment-itemize
[3] http://tex.stackexchange.com/questions/84595/latex-optional-arguments-with-square-brackets

$$\begin{aligned}\text{Perimeter} &= 1+1+1+1\\ &= 2+1+1\\ &= 3+1\\ &= 4\end{aligned}$$

The total perimeter of the square is 4.