

# Data Types

zyBooks Chap 2.5, 2.6, 2.7, 2.8

# Basics

What is a data type?

- A name for a category of data values are related

Why do we care about data types?

- Java is “strongly typed”, which means that each piece of data that we use has a specific type

# Data Types in Java

Java supports **two types** of data

- **Primitive data (8 types)**
- Objects, consist of fields and methods

# Primitive Data Types

Type	Supported Number Range
byte	whole numbers from -128 to 127
short	whole numbers from -32,768 to 32,767
<b>int</b>	<b>whole numbers from -2,147,483,648 to 2,147,483,647</b>
long	whole numbers from -9,223,372,036,854,775,808 to 9,223,372,036,854,775,807
float	Sufficient for storing 6 to 7 decimal digits
<b>double</b>	<b>(default) Sufficient for storing 15 decimal digits</b>
<b>char</b>	<b>A single character/letter or ASCII values</b>
<b>boolean</b>	<b>true / false</b>

Q: What primitive data type would you use to store...

1. whether a restaurant is open?
2. a person's middle initial?
3. the number of students in class?
4. cost of a meal?
5. distance to campus?
6. the number of siblings a person has?
7. whether you pass a course?
8. your grade in a class?