#### Java - Data Types

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# Organization

1 Data Types

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## Programming Review

https://www.youtube.com/watch?v=FCMxA3m\_Imc (Until 1:22)

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## Data Types

- A variable has a type
  - int  $\sim \mathbb{Z}$
  - double  $\sim \mathbb{R}$
  - $char = \{'a', 'b', ...\}$
  - boolean = { true, false}
  - String = { "a", "aa", ..., "b", "bb", ...}
  - ...

## Data Types

A variable has a type

...

- $$\begin{split} & \quad \text{int} \sim \mathbb{Z} \\ & \quad \text{double} \sim \mathbb{R} \\ & \quad \text{char} = \{ \text{`a'}, \text{`b'}, \dots \} \\ & \quad \text{boolean} = \{ \textit{true}, \textit{false} \} \\ & \quad \text{String} = \{ \text{"a"}, \text{"aa"}, \dots, \text{"b"}, \text{"bb"}, \dots \} \\ \end{aligned}$$
- Type checking enhances code correctness

### Data Types

- A variable has a type
  - $$\begin{split} & \quad \text{int} \sim \mathbb{Z} \\ & \quad \text{double} \sim \mathbb{R} \\ & \quad \text{char} = \{ \text{`a'}, \text{`b'}, \dots \} \\ & \quad \text{boolean} = \{ \textit{true}, \textit{false} \} \\ & \quad \text{String} = \{ \text{`"a''}, \text{""aa''}, \dots, \text{"b''}, \text{"bb''}, \dots \} \\ & \quad \dots \end{aligned}$$
- Type checking enhances code correctness
- Types increase coding-time

Java

#### **Exercises**

Write a program in Java that reads two double values from the keyboard and prints their sum, difference, product and division at the screen/ console.

#### **Exercises**

- Write a program in Java that reads two double values from the keyboard and prints their sum, difference, product and division at the screen/ console.
- Write a program in Java that reads a temperature value in celsius and give it in fahrenheit and in kelvin.

## Summary

- lacksquare int  $\sim \mathbb{Z}$
- lacksquare double  $\sim \mathbb{R}$
- char =  $\{'a', 'b', ...\}$
- boolean = { true, false}
- String = { "a", "aa",..., "b", "bb",...}
- ..
- Next Week: If-Else

#### References

- W3C Tutorial:
  - https://www.w3schools.com/java/java\_data\_types.asp
  - https:
    - //www.w3schools.com/java/java\_type\_casting.asp
  - https://www.w3schools.com/java/java\_strings.asp
- Exercises:

https://www.w3schools.com/java/exercise.asp

- Java Data Types
- Java Strings
- Java Math

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