

# Primitive Data Types



COMIXPLAIN

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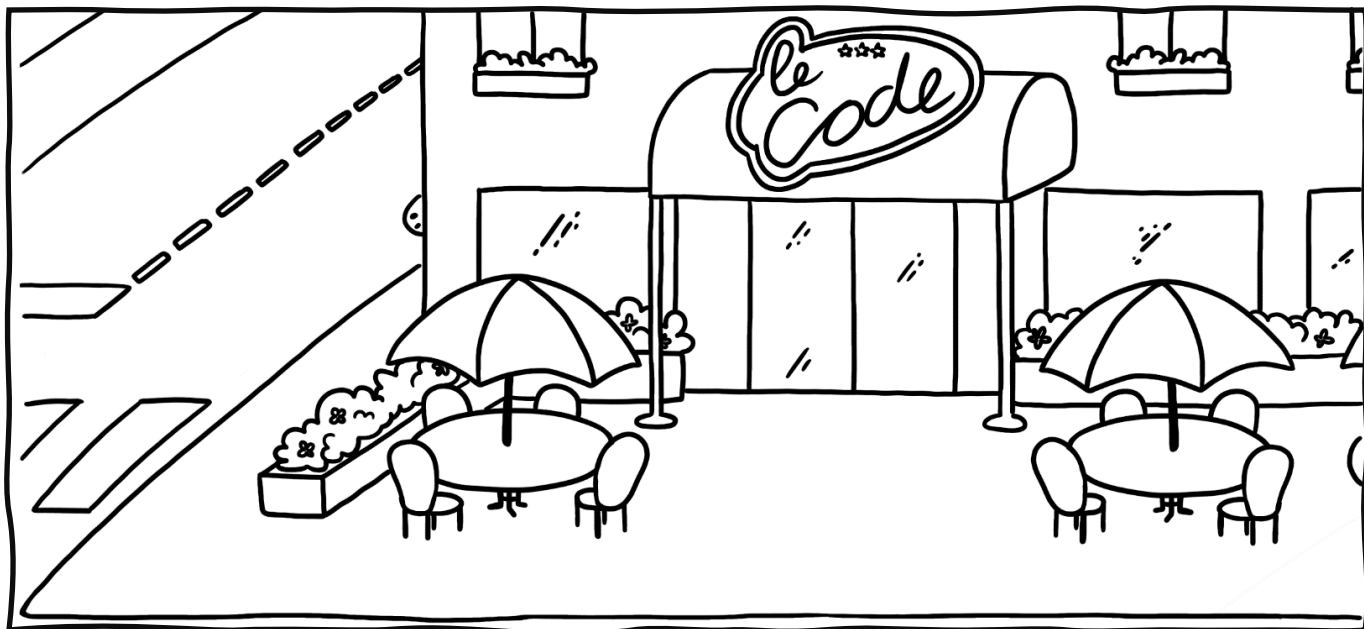
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**Illustrations:**

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<https://fhstp.github.io/comixplain>



Oh, you must be the new hire our manager was talking about!



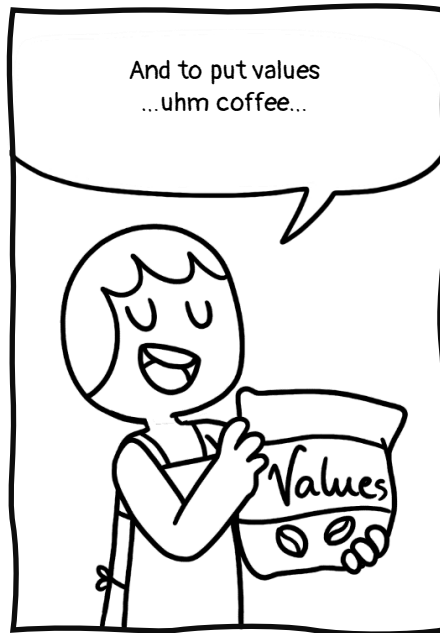
What do you mean you're not? Of course you are! Here's your apron. Come with me and I will show you the ropes quickly.



Your job is to execute orders from the program, uh, I mean the kitchen...



And to put values ...uhm coffee...



Into containers!



## Primitive Data Types

Here are our different containers that we use. Don't worry about the exact number ranges.

-128  
+127

-32,768  
+32 767

$-2 \times 10^9$   
 $+2 \times 10^9$

$-9 \times 10^{18}$   
 $+9 \times 10^{18}$

$\pm 1,4E - 45$   
 $\pm 3,4E + 38$

$\pm 4,9E - 324$   
 $\pm 1,7E + 308$

BYTE

SHORT

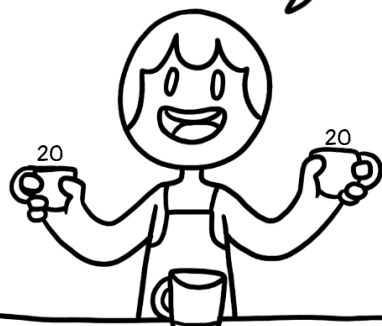
INT

LONG

FLOAT

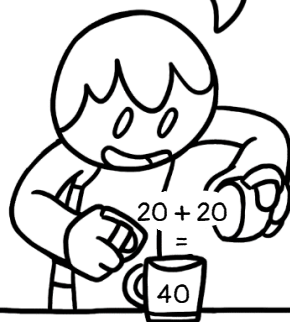
DOUBLE

Sometimes you'll have to pour the contents of glasses into others.



Int

Easy isn't it?



Just be mindful of one thing.



You're actually not emptying the original glass but copying the content into a new cup.



Also, you can always copy the content of a smaller glass into a larger one.



But what happens when we pour a float into a short?



Only a part of it will fit.



And the rest will leave a huge mess on the counter.



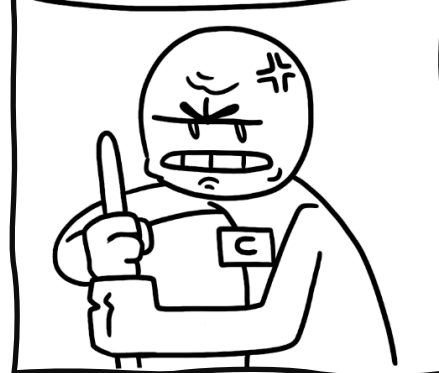
And whether that's bad depends on the manager you're working with,



See this person here? She won't be bothered much and will clean it up for you.



But NEVER do this under his watch. He will throw a fit!



So depending on what you are working on, try to avoid it.



You may ask yourself why don't we just put everything into doubles.

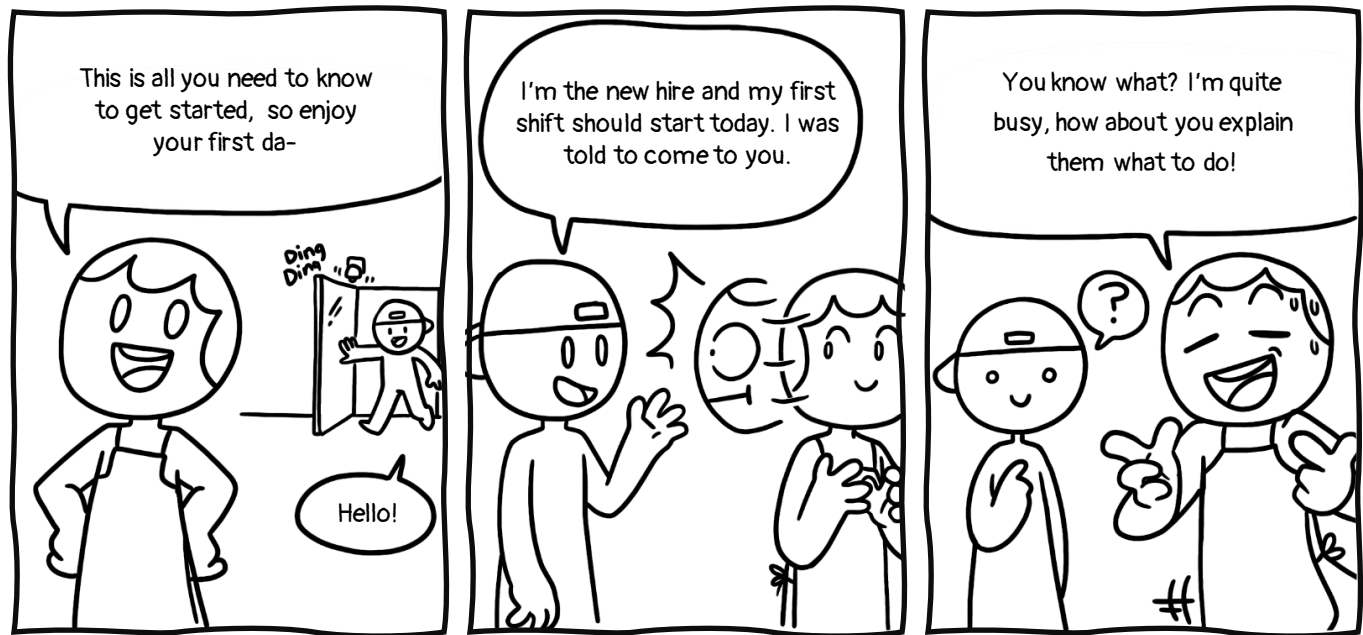


...but there wouldn't be much space left on the tables...



So please choose appropriate sizes.

## Primitive Data Types



How would you explain the concept of primitive data types to the new employee? Use this space to make notes and drawings.

**Sources:**

Knudsen, J., & Niemeyer, P. (2005). Learning Java. O'Reilly.

Mughal, K. A., & Rasmussen, R. W. (2003). A programmer's guide to Java certification: a comprehensive primer. Addison-Wesley Professional.