

Wednesday, May 10, 2023 10:09 AM

## Summary

- There are 2 main types in Java. Primitive and Reference types.
- The *byte*, *short*, *int*, *long*, *float*, *double*, *char* and *boolean* are the primitive types.

## Notes

There are 2 main types

- **Primitive** → for storing simple values
- **Reference** → for storing complex objects

## Primitive Types

Type	Bytes	Range	Comment
byte	1	-128, 127	
short	2	-32K, 32K	
int	4	-2B, 2B	
long	8		
float	4		For decimal. Stores fractional numbers. Sufficient for storing 6 to 7 decimal digits
double	8		For decimal. Stores fractional numbers. Sufficient for storing 15 decimal digits
char	2	-32K, 32K	Stores a single character/letter or ASCII values
boolean	1	true / false	

```
public static void main(String[] args) {  
    // The 'byte' data type takes 1 Byte of memory and can store values from -127, +128  
    // range.  
    byte date = 28;  
  
    // As 2023 exceeds 128 value, we need to use 'short' data type which takes  
    // 2 Byte of memory and can store values from -32K, +32K range.  
    short year = 2023;  
    short _32K = 32_000;  
  
    // As 33K exceeds 32K value, we need to use 'int' data type which takes 4 Byte of  
    // memory and can store values from -2B, +2B range.  
    int _33K = 33_000;  
    int _2B = 2_000_000_000;  
  
    // As 3B exceeds 2B value, we need to use 'long' data type which takes 8 Byte of  
    // memory and can store values from TBD to TBD range.  
    long _3B = 3_000_000_000L;  
  
    // Similar to 'int', it takes 4 Byte of memory.  
    float priceF = 10.02F;  
  
    // Similar to 'long', it takes 8 Byte of memory.  
    double price = 10.02;  
  
    char letter = 'a';  
    boolean isPresent = true;  
}
```