

FEB 2017

M	T	W	T	F	S	S	M	T	W	T	F	S
1	2	3	4	5	6	7	8	9	10	11	12	
13	14	15	16	17	18	19	20	21	22	23	24	25
26	27	28										

JAN
TUEWeek 02
010-355

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Chapter - 1 Variables & Data Types★ Data types in Java

Data Types

Primitive Data Types

- int
- long
- double
- short
- byte
- float
- char
- boolean

Non-Primitive Data Types

Just like we have some rules that we follow to speak English (the grammar), we have some rules to follow while writing a Java program. The set of these rules are called Syntax.

↳ vocabulary &

Vocabulary just means words that we use in Grammar.

Variables

A variable is a container that contains or stores a value. This value can be changed during the execution of the program.

Example:

int number = 8; → value it stores.

datatype

variable name

2017

M	T	W	T	F	S	S	U	T	F	S	S
9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	

* Rules of declaring a variable name

We can choose a name while declaring a Java variable.

If the following rules are followed:

- 1) Must not begin with a digit. → Int 1aery is not valid.
- 2) Name is case sensitive → Harry and harry are different.
- 3) Should not be a keyword (like void).
- 4) white space not allowed. → Int code with Harry is not valid.

5) Can contain alphabets, \$ characters, - character and digits if the other conditions are met.

Example of valid names are: (downvowp etc) harry

• Company must be a registered user

• Data types

There are two types of Data types in Java are as follows:

1) Primitive Data Types (Intrinsic)

2) Non-primitive Data Types (Derived)

No primitive data type can be divided into

String, Boolean and null with below a

working off for modification

MON TUE WED THU FRI SAT SUN
1 2 3 4 5 6 7 8 9 10 11 12
13 14 15 16 17 18 19 20 21 22 23 24 25 26
27 28

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THU

Week 02
012-353

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Primitive Data Types

Java is statically typed. → Variables must declared before use.

There are eight primitive datatypes supported by Java.

1) byte → • Value ranges from -128 to 127.
• Takes 1 byte.
• Default value is 0.

2) short → • Value ranges from $(2^{15})/2$ to $(2^{15})/2 - 1$
• Takes 2 bytes.
• Default value is 0.

3) int → • Value ranges from $(2^{31})/2$ to $(2^{31})/2 - 1$
• Takes 4 bytes.
• Default value is 0.

4) float → • Value ranges from (see docs)
• Takes 4 bytes.
• Default value is 0.0f.

5) long → • Value ranges from $(2^{63})/2$ to $(2^{63})/2 - 1$
• Takes 8 bytes.
• Default value is 0.

6) double → • Value ranges from (see docs)
• Takes 8 bytes.

7) char → • Value ranges from 0 to 65535 ($2^{16} - 1$)
• Takes 2 bytes → because it supports multibyte characters
• Default value is '\u0000'.

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FRI

- * Write a Java program of adding 3 numbers:

public class sum

```
public static void main(String [] args)
{
    int num1 = 10
    int num2 = 20
    int num3 = 30
    int sum = num1 + num2 + num3 ;
    System.out.println(sum);
}
```

★ Literals

A constant ~~variable~~ which can be assigned to the variable is called as a literals.

10 → Integral value literal

10.1f → float literal

10.1 → double literal

'A' → char literal

true → boolean literal

"Harry" → String literal

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014-361

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★ Keywords

Words which are reserved and used by the Java compiler.
They cannot be used as an identifier.

Reading data from the keyboard

In order to read data from the keyboard, Java has a Scanner class.

Scanner class has a lot of methods to read the data from the keyboard.

```
Scanner sc = new Scanner (System.in);  
                                ↳ Read from the  
                                keyboard
```

```
int a = sc.nextInt();
```

↳ Method to read from the
keyboard integer in this case

// Program Code

```
import java.util.Scanner;  
public class exoh-004 {  
    public static void main( String [ ] args ) {  
        System.out.println ("Taking Input From The User");  
        Scanner sc = new Scanner (System.in);  
        System.out.println ("Enter the number 1 :");  
        int a = sc.nextInt();  
        System.out.println ("Enter the number 2 :");  
        int b = sc.nextInt();  
        int sum = a + b;  
        System.out.println ("The sum of these numbers is :");  
    } }
```

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014-351

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★ Keywords

words which are reserved and used by the Java compiler.
They cannot be used as an identifier.

Reading data from the keyboard

In order to read data from the keyboard, Java has a Scanner class.

Scanner class has a lot of methods to read the data from the keyboard.

Scanner sc = new Scanner (System.in);
 ↳ Read from the keyboard

int a = sc.nextInt();
 ↳ Method to read from the keyboard integer in this case

//Program Code

```
import java.util.Scanner;  
public class coh-004 {  
    public static void main (String [] args) {  
        System.out.println ("Taking Input From The User");  
        Scanner sc = new Scanner (System.in);  
        System.out.println ("Enter the number 1 : ");  
        int a = sc.nextInt ();  
        System.out.println ("Enter the number 2 : ");  
        int b = sc.nextInt ();  
        int sum = a + b;  
        System.out.println ("The sum of these numbers is : ");  
        System.out.println (sum);  
    }  
}
```

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Week 03
Date 349JAN
MON

SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Exercise

Write a Program to calculate Percentage of a given student in CBSE board exam. His marks from 5 subjects must be taken as input from the keyboard. (Marks are out of 100).

```
import Scanner java.util.Scanner;
public class Marks
```

```
{ public static void main (String [] args)
{
    System.out.println (" Taken Input From the User.");
    Scanner sc = new Scanner (System.in);
    System.out.println (" Enter the Marks of Maths:");
    int maths = sc.nextInt ();
    System.out.println (" Enter the Marks of Science:");
    int science = sc.nextInt ();
    System.out.println (" Enter the Marks of English:");
    int English = sc.nextInt ();
    System.out.println (" Enter the Marks of Hindi:");
    int Hindi = sc.nextInt ();
    System.out.println (" Enter the Marks of SST:");
    int SST = sc.nextInt ();
    int percentage = (Math + Science + English + Hindi + SST) / 500
}
```

```
    System.out.println (" The Percentage of a given
                        subject is : ");
    System.out.println (percentage);
}}
```

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