

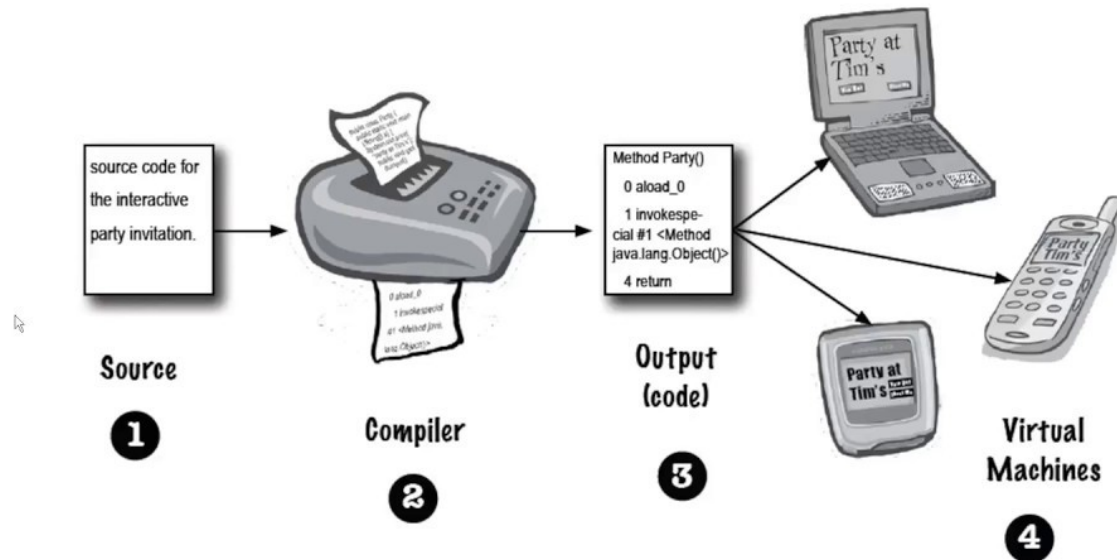
Programming Fundamentals using Java

Lecture 03 - Codes

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<https://ide.codingminutes.com/?id=zex>

The Way Java Works



First Java Program

Boilerplate Code

```
1 //Boilerplate Code
2 class Main
3 {
4     public static void main (String[] args)
5     {
6         //Your Code goes here
7         System.out.println("Hello World");
8     }
9 }
```

Lecture

- code structure
- statements
- branching
- looping
- coding problems



Statements

Instructions to the JVM to do something.

declarations,

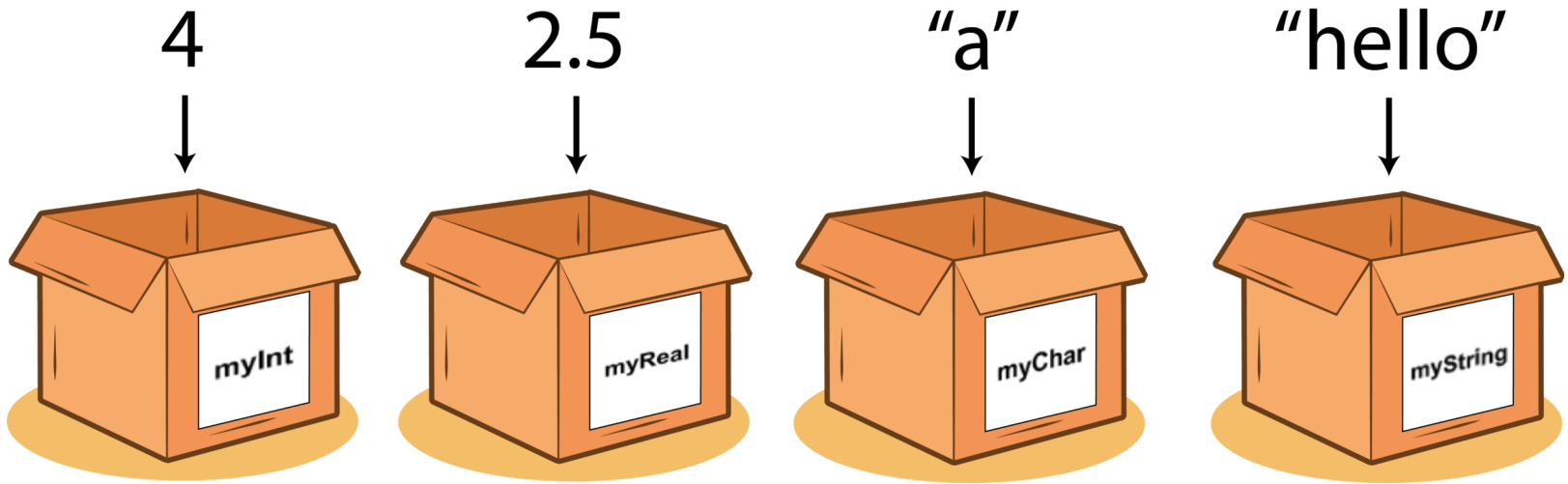
assignments,

methods calls

input/output statements

etc.

Variables & Datatypes



Data Types

Boolean – **boolean**

Character – **char**

Integer – **int**

Floating Point – **float**

Double Floating Point – **double**



Simple Interest Calculator

Read Principal, Rate & Time and print Simple Interest.

Sample Input

$$P = 100$$

$$R = 5$$

$$T = 2$$

Sample Output

$$SI = 10$$



Learning Outcomes

'float' data type used to define
numeric values
with **floating** decimal points.

'int' divided by 'int' gives a
integer output due to a
concept called **Implicit Typecasting**.

Branching

if/else tests - do something under this condition

```
if ( weather == "rainy" ){  
    System.out.print( "Take an Umbrella" );  
}
```

Conditional Statements

Single If

```
1 // Single If
2
3 int marks = 90;
4
5 if (marks > 80) {
6     cout << "Let's Party!";
7 }
```



Conditional Statements

If-else block

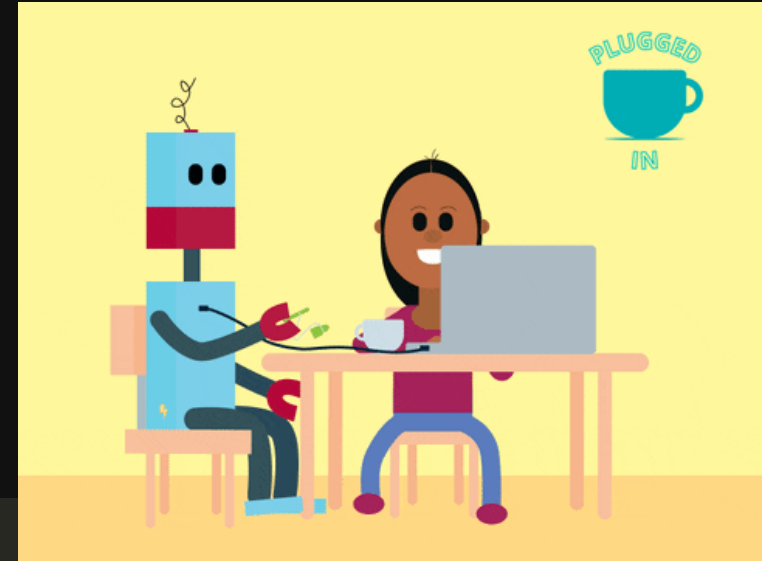
```
1 // If-Else Block
2
3 int marks = 70;
4
5 if (marks > 80) {
6     cout << "Let's Party";
7 }
8 else{
9     cout<< "Work hard next time";
10 }
11
```



Conditional Statements

If-else-if-else

```
1 // If-Else Block
2
3 int marks = 70;
4
5 if (marks > 80) {
6     cout << "Let's Party";
7 }
8 else if (marks > 60) {
9     cout << "Good Job";
10 }
11 else {
12     cout << "Work hard next time";
13 }
```



Ternary Operator

```
1 variable = (condition) ? expressionTrue : expressionFalse;
```

Loops

Do something again & again!




```
1 //Init
2
3 while(..condition is true ..){
4
5     //execute some stuff
6
7     //update
8 }
```

While Loop



```
1  int calories_burnt = 0;
2
3  while(calories_burnt <100 ){
4
5      cout<<"Run 1 step";
6
7      calories_burnt = calories_burnt + 1;
8  }
```



While Loop

```
1  int calories_burnt = 0;
2
3  while(calories_burnt<100 ){
4
5      cout<<"Take a step";
6
7      calories_burnt = calories_burnt + 1;
8  }
9
10 //out of the loop
11 cout<<"Workout Complete";
```

For Loop

```
1  
2 for(init;stopping_condition;update_statement){  
3     //execute some stuff  
4 }
```



Code Demo!



Largest Number

Given 3 numbers, find the largest number.

Sample Input

A = 10

B = 30

C = 20

Sample Output

30



Number Sum

Find the sum of numbers from 1 to N

Example

$N = 4$

Output

10



Prime Number

Given a Number, check if it is Prime or Not!

Input

11

Output

Yes



Time To Try!



8 Mins

Challenge 🔥

Electricity Bill Calculator : Given total consumption of a household in units, write a program to estimate the total bill amount as per the table.

Units	Charges
1 to 100 units	Free
100 to 200 units	Rs. 5/unit
200 to 300 units	Rs.10/unit
300+ units	Rs.12/unit

- Homework

The Beer Bottle Song!

