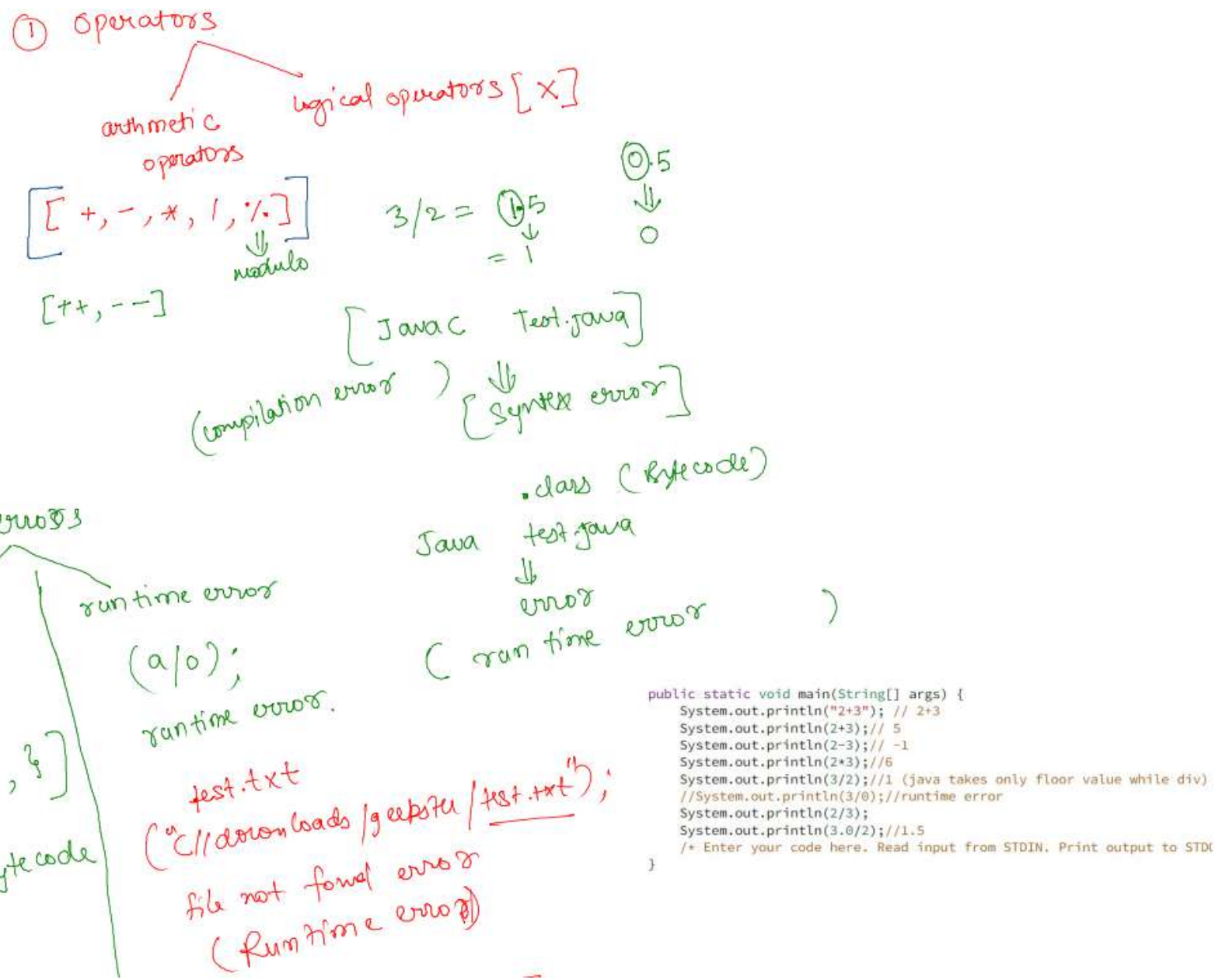
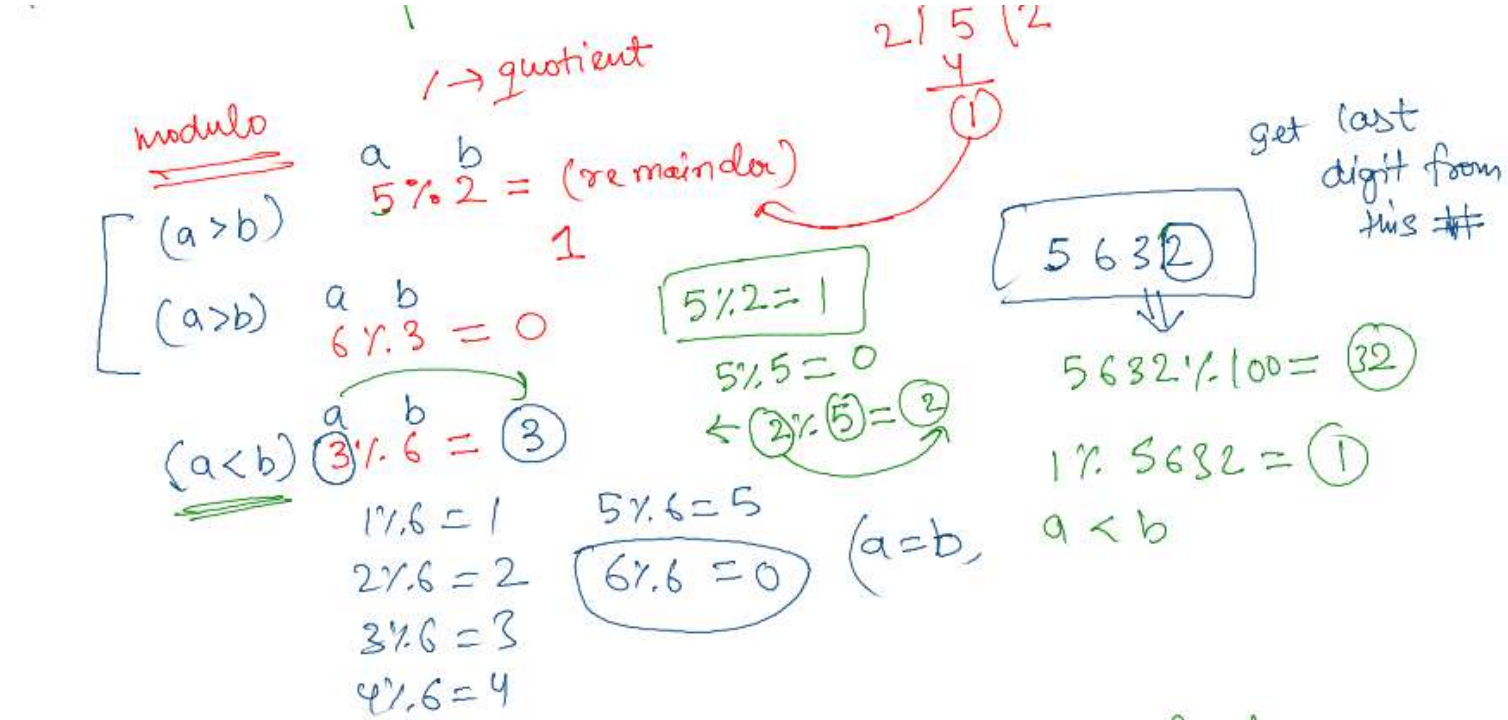
Variable, datatypes, & operators.




```java
public static void main(String[] args) {
    System.out.println("2+3"); // 2+3
    System.out.println(2+3);// 5
    System.out.println(2-3);// -1
    System.out.println(2*3);//6
    System.out.println(3/2);//1 (java takes only floor value while div)
    //System.out.println(3/0);//runtime error
    System.out.println(2/3);
    System.out.println(3.0/2);//1.5
    /* Enter your code here. Read input from STDIN. Print output to STDO
}
```



Imp

* when we do arithmetic op^n over decimal value you will get decimal output.

5.0 + 1 = 6.0

5.0 − 1 = 4.0

5.0 x 2 = 10.0

5.0 / 2 = 2.5

Variables and datatypes

provided by java — default

Datatype	Default	Size
byte	0 ✓	1 byte
short	0 ✓	2 byte
✓ int	0 ✓	4 bytes
✓ long	0 ✓	8 bytes
float	0.0 ✓	4 byte
✓ double	0.0 ✓	8 byte
✓ boolean	T/F	no size //false
✓ char	'a', 'b' ... '$'	2 byte

int a = 10;

- int → datatype
- a → variable name
- 10 → constant;

a: [10]

1 byte = 8 bits

2^8

0 -

int $2^{32} \approx 10^9$

$\Rightarrow 2^{30} * 2^2$

$\Rightarrow 2^{30} \Rightarrow (2^{10})^3$

$\Rightarrow (1024)^3$

$\approx (1000)^3$

$= (10^3)^3 = 10^9$

int a;

```
byte a = 10; ✓
short b = 23; ✓
int c = -10; ✓
long d = 28345 6; ✓
float e = 10.3f; ✓
double f = 10.0; ✓
boolean g = true|false; ✓
char ch = 'a';
```

Scanner scn = new Scanner(System.in);

```java
public class Solution {

    public static void main(String[] args) {

        Scanner scn = new Scanner(System.in); // creating object of scanner

        int x = scn.nextInt();
        int y = scn.nextInt();

        int sum = x+y;
        System.out.println(sum);

        int diff = x-y;
        System.out.println(diff);

    }
}
```

40 50

x = 40 y = 50

sum = 90 → 90

diff = -10 = -10

```java
public class Solution {

    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);

        int a = scn.nextInt();
        int b = scn.nextInt();

        int lasta = a%10;
        int lastb= b%10;

        int ans = lasta+lastb;
        System.out.println(ans);
        /* Enter your code here. Read input from STDIN. Print output to STDOUT. Your class should be na
```

1234%10 = 4

5678%10 = 8

a = 1234 b = 5678

lasta = 4 lastb = 8

ans = 12

12