Today's agenda

↳ Quizzes and learnings

int n: 20;

→ Semicolon missing

Quiz 1:

Syntax to declare the variable?

a) type variable_name = value; ✓

b) variable_name type = value;

c) variable_name : value;

d) none of the above;

Quiz 2:

↳ Declare an int variable with name y and value 20?

↳ int y = 20;

Quiz 3:

```
int a = 10;
int b = 20;
System.out.println(a+b);
```

10 → a, 20 → b

10+20 → 30

Quiz 4:

→ Correct ✅

```
int a = 20;
int b = 30;
System.out.println(a + " " + b);
```

"20 " + b (30) → 20 30

Quiz 5:

✔ Case Sensitive

```
int temP = 10;
System.out.println(Temp);
```

10
temP

→ Error

Quiz 6:

```
→ System.out.println(a);
  int a = 10;
```

→ error

Quiz 7:

```
int a = 20;
→ int a = 30;
System.out.println(a);
```

→ Error

20
a

Quiz 8:

```
int x = 20;
System.out.print(x);
x = 40;
System.out.println(x);
```

40
20
x

2040

Quiz 9:

```
int a = 10;
int b = 20;
a = b + 30;
System.out.println(a);
```

50
50
a

20
b

* variable naming rules:

1. Name can contain lowercase, uppercase or digits[0-9] or $ (dollar) or '_' (underscore).

2. First letter of the variable name can't be number.

3. Can't use Reserve words as variable name.
   Reserved words: words which are predefined in java. eg: Public, Static, void, int etc.

Quiz 10:

```
int x = 10;   ✓
int 1y = 20;  ✗
int y@b = 30; ✗ @ not allowed
```

⇒ ans = 1

↳ How many of above are correct variable names.

Quiz 11:

```
int _y = 10;   ✓
int xny = 20;  ✓
int x a = 30;  ✗
int y$2 = 45;  ✓
```

ans = 3

↳ How many of above are correct variable names.

Quiz 12:

```
int Static = 60;
System.out.println(Static);
```

↳ error

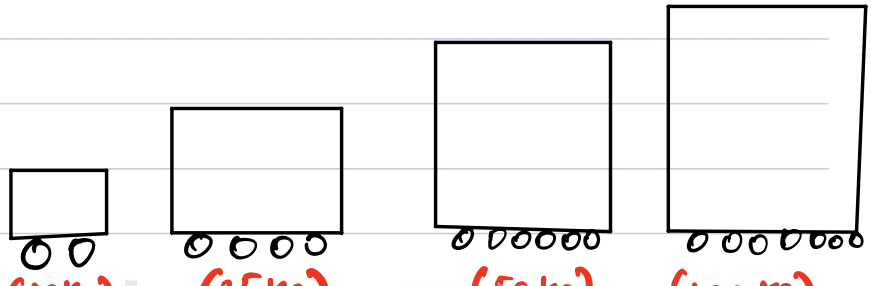
* Different categories of data

a) Number → Integers → byte, short, int, long; decimal

b) Text

c) boolean → true, false

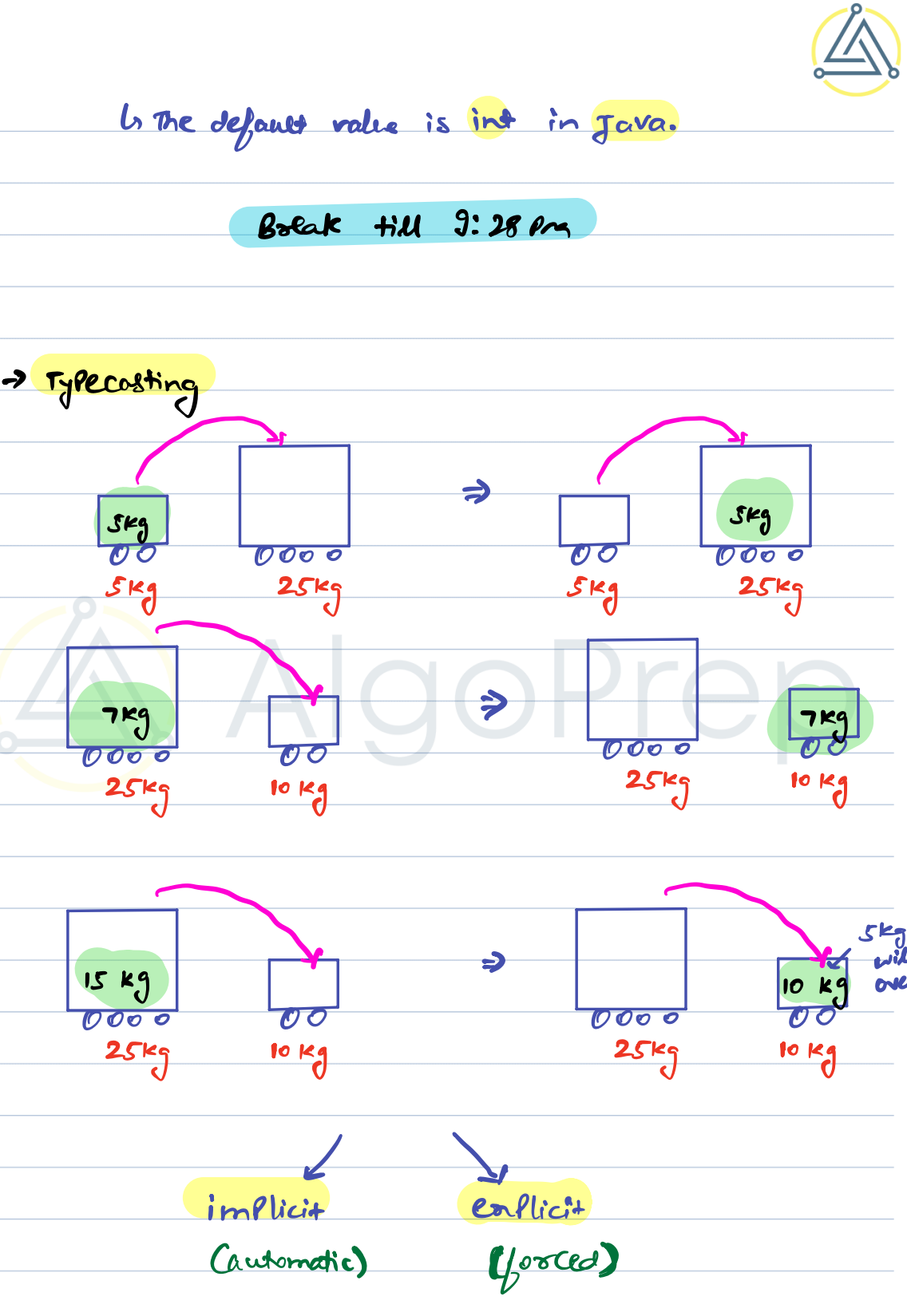
Bharu Postal Courier Service



item	(10kg)	(25kg)	(50kg)	(100kg)
5kg →	✓ (ideal)	✓	✓	✓
75kg →	✗	✗	✗	✓

	Range / Capacity	
byte	-2^7 to 2^7-1 : {-128, 127}	8
short	-2^{15} to $2^{15}-1$: {-32768, 32767}	16
int	-2^{31} to $2^{31}-1$: {....., ...}	32
long	-2^{63} to $2^{63}-1$: {....., ...}	64

↳ Exact explanation of how we got this range is in BITS Class.


The default value is int in Java.
Break till 9:28 pm
Typecasting
5kg
5kg
25kg
5kg
5kg
25kg
7kg
25kg
10 kg
25kg
7kg
10 kg
15 kg
25kg
10 kg
25kg
10 kg
5kg will overflow
implicit
(automatic)
explicit
(forced)

ex1:

```
int x = 100;
long y = x;
```

→ implicit

ex2:

```
long x = 1000;
int y = (int)x;
```

→ explicit

approx

int : -2^{31} to $2^{31}-1$ → ($-2 * 10^9$ to $2 * 10^9$)

long : -2^{62} to $2^{63}-1$ → ($-2 * 10^{18}$ to $2 * 10^{18}$)

Quiz 13:

```
int a = 100000;
long b = a;
System.out.println(b);
```

→ implicit

→ 10^4

Quiz 14:

```
long x = 100000;
int y = x;
System.out.println(y);
```

→ explicit

explicit typecasting

→ `int y = (int) x;`

Errors

Quiz 15:

```
long a = 10^6L;
int b = (int) a;
System.out.println(b);
```

long → int

10^3

Random value

Quiz 16:

input : 30

```
Scanner scn = new Scanner (System.in);   → error
int n = scn.nextInt();
System.out.println(n);
```

Quiz 17:

input : 30

```
Scanner scn = new Scanner (System.in);   → error
int n = scn.nextInt();
System.out.println(n);
```


Quiz 17:

input : 30

```
Scanner scn = new Scanner (System.in);
int n = scn.nextInt();
System.out.println(n);
```

↳ 30

input : 24 30

```
Scanner scn = new Scanner(System.in);
int x = scn.nextInt();
int y = scn.nextInt();
System.out.println(x);
```

↳ 24

24
x

30
y