Casting (המרה)

- Sometimes it is desirable for a variable of one type to be considered as belonging to another in an operation
- We say the variable is cast to the new type
- Syntax: (type)operation/variable

Example – find what’s wrong

```java
int a = 10;
int b = 20;
System.out.println("average=\( (a+b) \times (1/2) )\);
```

Alternatives

```java
int a = 10;
int b = 20;
System.out.println("average = \( (a+b) \times (\text{double}(1/2)) \)\);
System.out.println("average = \( (a+b) \times (1.0/2) \)\);
// will the following work?
System.out.println("average = \( (a+b) \times \text{double}(1/2) \)\);
```

Implicit Cast

- Automatic conversion between data types
- Occurs when data types can not be compared as is

```java
int x, y;
double d;
x = 3; y = 5;
d = x + y; // d gets 8.0000
```

Implicit Cast (Cont.)

```java
int a = 4.5; // implicit cast from double (4.5) to int (4), compilation error
double x = 4; // implicit cast from int to double, "int is a double" relation hold
```