

# Classnote

## 1. Variables

A variable is a storage location for data.

Examples:

```
int x = 1;           // Integer
char c = '1';        // Character
float float_number = 3.1416; // Floating-point number
double double_num = 23.133984; // Double precision number
```

## 2. Comments

Used to add notes or explanations in code.

- **Single line comment:** starts with //
- **Multi line comment:** written inside /\* ... \*/

## 3. Arithmetic Operators

- + → Addition
- - → Subtraction
- \* → Multiplication
- / → Division
- % → Modulus (remainder)

**Example:**

```
int n = 19;
n = n / 3;    // division → 6 (integer result)
n = n - 3;    // now n = 3
int y = 10 % 2; // remainder = 0
```

## 4. Conditionals (**if**, **else**)

Used to check conditions.

```
if(w % 2 == 0)    // even check
{
    if(w == 2)    // nested condition
    {
        printf("NO\n");
    }
    else
    {
        printf("YES\n");
    }
}
else
{
    printf("NO\n");
}
```

**Explanation:**

1. If number is even → check if it is 2.

If  $w == 2 \rightarrow$  print "NO"

Otherwise → print "YES"

2. If number is odd → print "NO"

Examples:

- $w = 2 \rightarrow \text{NO}$
- $w = 4, 6, 8, 10 \dots \rightarrow \text{YES}$
- $w = 3, 5, 7 \dots \rightarrow \text{NO}$

## 5. Type Casting

```
double d = 3 / 2;  
printf("%.5lf", d);
```

Here,  $3/2 \rightarrow$  integer division  $\rightarrow$  result = 1 (since  $\text{int}/\text{int} = \text{int}$ ).

So output: 1.00000

To get fractional result:

```
double d = 3.0 / 2;    // output: 1.50000
```