

## C Language Tutorial

### (Basic to Advanced)

**Topics** to be covered :

Installation + Setup  
Chapter 1 - Variables, Data types + Input/Output  
Chapter 2 - Instructions & Operators  
Chapter 3 - Conditional Statements  
Chapter 4 - Loop Control Statements  
Chapter 5 - Functions & Recursion  
Chapter 6 - Pointers  
Chapter 7 - Arrays  
Chapter 8 - Strings  
Chapter 9 - Structures  
Chapter 10 - File I/O  
Chapter 11 - Dynamic Memory Allocation

## Variables, Data Types + Input/Output

### (Chapter 1)

#### 1. First Program

```
#include<stdio.h>

int main() {
    printf("Hello World");
    return 0;
}
```

#### 2. Variables & Data Types + Constants & Keywords

```
#include<stdio.h>

int main() {
    int number;
    int age;
    int price;
    return 0;
}
```

```
#include<stdio.h>

int main() {
    int age = 22;
    float pi = 3.14;
    char percentage = '%';
    return 0;
}
```

### 3. Comments

```
#include<stdio.h>
//This program prints Hello World
int main() {
    printf("Hello World");
    return 0;
}
```

### 4. Output

```
#include<stdio.h>

int main() {
    int age = 22;
    float pi = 3.14;
    char percentage = '%';

    printf("age is %d", age);
    printf("age is %f", pi);
    printf("age is %c", percentage);
    return 0;
}
```

### 5. Input (Sum of 2 numbers)

```
#include<stdio.h>

int main() {
    int a, b;

    printf("enter a \n");
    scanf("%d", &a);

    printf("enter b \n");
```

```
    scanf("%d", &b);

    printf("sum of a & b is : %d \n", a+b);

    return 0;
}
```

**6. Practice Qs 1 (Area of Square)**

```
#include<stdio.h>
//area of square
int main() {
    int side;
    scanf("%d", &side);
    printf("%d", side * side);
    return 0;
}
```

**7. Practice Qs 2 (Area of Circle)**

```
#include<stdio.h>
//area of square
int main() {
    float radius;
    scanf("%f", &radius);
    printf("%f", 3.14 * radius * radius);
    return 0;
}
```