

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;
}
```