

# 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

## Dynamic Memory Allocation

### (Chapter 11)

```
# include <stdio.h>
# include <stdlib.h>
//Dynamic Memory Allocation

int main() {
    //sizeof function
    printf("%d\n", sizeof(int));
    printf("%d\n", sizeof(float));
    printf("%d\n", sizeof(char));

    //malloc
    // int *ptr;
    // ptr = (int *) malloc(5 * sizeof(int));

    // for(int i=0; i<5; i++) {
    //     scanf("%d", &ptr[i]);
    // }

    // for(int i=0; i<5; i++) {
    //     printf("number %d = %d\n", i+1, ptr[i]);
    // }
```

```
// }

//calloc
int *ptr = (int *) calloc(5, sizeof(int));

for(int i=0; i<5; i++) {
    printf("number %d = %d\n", i+1, ptr[i]);
}

//free
free(ptr);

return 0;
}
```