

C Cheatsheet

C is a general-purpose programming language that has been used for developing operating systems, embedded systems, and other applications. Here's a quick overview of its unique features and some code blocks for common tasks.

Variables

Declare variables using the data type followed by the variable name. C is a statically typed language, so the data type of a variable cannot be changed after it is declared.

```
int x = 10;
char c = 'a';
float f = 3.14;
```

Functions

Functions in C are declared using the `function` keyword. They can take parameters and return values.

```
int add(int a, int b) {
    return a + b;
}
```

Loops

C supports `for`, `while`, and `do-while` loops for iterating over arrays or performing a task a certain number of times.

```
int numbers[] = {1, 2, 3, 4, 5};

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

int i = 0;
while (i < 5) {
    printf("%d\n", numbers[i]);
    i++;
}

i = 0;
do {
    printf("%d\n", numbers[i]);
    i++;
} while (i < 5);
```

Conditionals

Use `if` statements to execute code based on a condition. `else if` and `else` statements can be used to handle multiple conditions.

```
int x = 10;

if (x > 0) {
    printf("x is positive");
} else if (x < 0) {
    printf("x is negative");
} else {
    printf("x is zero");
}
```

File Manipulation

C provides built-in support for file manipulation, including reading and writing files, and interacting with the file system.

```
#include <stdio.h>

int main() {
    FILE *fp;
    char buffer[255];

    fp = fopen("/path/to/file.txt", "r");
    fgets(buffer, 255, fp);
    printf("%s", buffer);
    fclose(fp);

    fp = fopen("/path/to/file.txt", "w");
    fputs("New contents", fp);
    fclose(fp);

    if (remove("/path/to/file.txt") == 0) {
        printf("File deleted successfully");
    } else {
        printf("Error deleting file");
    }

    return 0;
}
```

Resources

Here are some resources to help you learn more about C:

- [C Programming Wikibook](#)
- [C Programming Language](#) (Book by Brian Kernighan and Dennis Ritchie)
- [Learn C.org](#) (Interactive C tutorial)