

C Cheat Sheet

Main Function

```
void main(void) {  
}
```

Printf

```
#include <stdio.h>  
void main(void) {  
    int i = 1;  
    unsigned u = 2;  
    long l = 3;  
    float f = 4.0;  
    double d = 5.0;  
    char c = 6;  
    unsigned char uc = 7;  
    printf("i = %d, u = %u, l = %l, f = %f, d = %lf, c = %c, c = %d, uc =  
%d\n",  
           i, u, l, f, d, c, c, uc);  
    printf("print a tab by \t and new line by \n");  
}
```

Scanf

```
#include <stdio.h>  
void main(void) {  
    int i;  
    printf("Print a prompt for i\n");  
    scanf("%d", &i);  
}
```

Conditionals

```
if(flag) {  
    // put some statements here to execute if flag is true (flag != 0)  
}  
if(flag) {  
    // put some statements here to execute if flag is true (flag != 0)  
} else {  
    // put some statements here to execute if flag is false (flag == 0)  
}  
switch(flag) {  
    case 0: // statements  
        break;  
    case 1: // statements  
        break;  
    case 2: // statements  
        break;  
    default: // statements  
}
```

Looping

```
while(flag) {  
    // make sure there is some statement in here to change flag to become false.  
}  
  
for(i = 0; i < LAST; i++) {  
    // statements  
}
```

Math Functions

```
#include <math.h>  
  
void main(void) {  
    double th = pi/2;    // th is in radians  
    double x, y;  
  
    x = cos(th);  
    y = sin(th);  
    th = atan2(y, x);  
}
```

Creating Functions

```
int functionname(type1 input1, ... , typeN *output1, ...);    // this is the function  
prototype with the ;  
int functionname(type1 input1, ... , typeN *output1, ...)  
{  
    *output1 = // some function of the input variables.  
    *output2 = // some function of the input variables.  
    ...  
    return(someintvalue);  
}
```