

### Declaring Variables

`int i;` Signed integer. 1 bit to determine positive or negative and 31 bits for value.

`unsigned int j;` Unsigned integer. All 32-bits for values.

`const int k = 10;` Declare and assign a constant int.

`char c;` A single byte.

### Loop examples

```
for(int i = 0; i < 5; i++) {
    printf("%i ", i);
} // Output 0 1 2 3 4
int j = 5;
while (j--) {
    printf("%i ", j);
} // Output 4 3 2 1 0
```

### Array Declaration

`char arr[] = "Hello";` Char array with string literal.

`char arr[5];` An array for 5 characters.

`char arr = {'A', 'B', '\0'};` With an array literal.

`char *arr;` Declaration of a pointer.

### Manipulating an Array

```
char s[] = "Hello";
// Read out one element
char FirstChar = s[0];
// Modify one element
s[1] = 'a';
// Read out each element
int len = strlen(s);
for(int i = 0; i < len; i++) {
    printf("s[%i] = %c\n", i, s[i]);
}
```

