## Strings in C

• A string in C is an array of characters ending with \0 (null terminator)

- Always ensure enough space for \0!
- Use <string.h> for string functions:
  - strlen(str) length (excludes \0)
  - strcpy(dest, src) -copy
  - strcmp(str1, str2) -compare
  - strcat(dest, src) -concatenate

- Use <ctype.h> for string functions:
  - isdigit(int c)
  - isalpha(int c)
  - isspace(int c)
  - islower(int c)/isupper(int c)

### • String vs String literal:

Туре	Example	Writable?
String literal	char *s = "Hello"	💢 read-only
String	char s[] = "Hello"	writable writable

### Sample outputs

```
The string " 45" corresponds to integer 45 rt45

The string "rt45" corresponds to integer 0 45yhu

The string "45yhu" corresponds to integer 45

The string "" corresponds to integer 0 4 5

The string " 4 5" corresponds to integer 4
```

### Converting str to int using ASCII values

```
+1 +2 +3 +4 +5 +6 +7
 32
                      4
 48 |
 56 1
 64 I
 72 |
 80
 88
 96
                                  g
104
       h
                          m
112
                              V
120
```

### Sample outputs

```
The string " 45" corresponds to integer 45 rt45

The string "rt45" corresponds to integer 0 45yhu

The string "45yhu" corresponds to integer 45

The string "" corresponds to integer 0 4 5

The string " 4 5" corresponds to integer 4
```

### Converting str to int using ASCII values

The ASCII code for the character '0' is 48.

#### Sample outputs

```
The string " 45" corresponds to integer 45 rt45

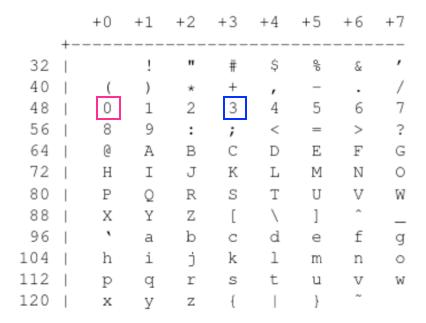
The string "rt45" corresponds to integer 0 45yhu

The string "45yhu" corresponds to integer 45

The string "" corresponds to integer 0 4 5

The string " 4 5" corresponds to integer 4
```

### Converting str to int using ASCII values



The ASCII code for the character '0' is 48. The ASCII code for the character '3' is 51.

#### Sample outputs

```
The string " 45" corresponds to integer 45 rt45
The string "rt45" corresponds to integer 0 45yhu
The string "45yhu" corresponds to integer 45
The string "" corresponds to integer 0 4 5
The string " 4 5" corresponds to integer 4
```

## Converting str to int using ASCII values

The ASCII code for the character '0' is 48. The ASCII code for the character '3' is 51.

 $\Rightarrow$  To get the corresponding integer, always subtract 48.

#### Sample outputs

```
The string " 45" corresponds to integer 45 rt45

The string "rt45" corresponds to integer 0 45yhu

The string "45yhu" corresponds to integer 45

The string "" corresponds to integer 0 4 5

The string " 4 5" corresponds to integer 4
```

## Converting str to int using ASCII values

The ASCII code for the character '0' is 48.  $48-48 = 0 \checkmark$  The ASCII code for the character '3' is 51.  $51-48 = 3 \checkmark$ 

 $<sup>\</sup>Rightarrow$  To get the corresponding integer, always subtract 48.