INC 141
Computer Programming

Lab 7

Learning Outcomes (Lab 7)

- Understand string
- Know how to process strings

String

- **char stores 1 letter**
- **Word, sentence consists of several letters**

How to store words, sentences?
Answer: Array of char (called string)

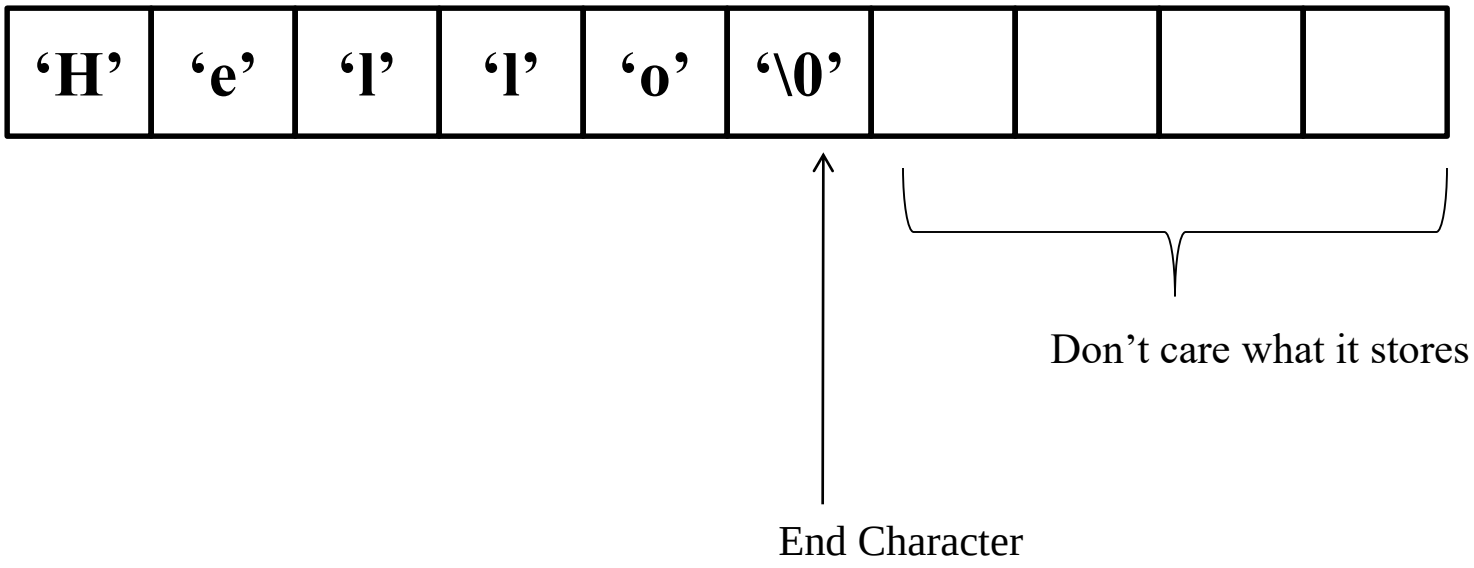
Char Constant and String Constant

Char constant **‘a’**

String constant **“Hello”**

Processing string is like processing an array (do it one-by-one)

char a[10] = “Hello”



A string must have the end character.
0 ‘\0’ NULL

Example 1

Note that no &

```
#include <stdio.h>

main() {
     char i = 'Q';
     char a[10];
     scanf("%s", a);
     printf("%s", a);
     printf("\n");
     printf("%c %c", i, a[0]);
}
```

Task 1 (Upload in LEB2)

Write a flowchart/program that receives 1 string from the keyboard and print out the number of characters in that string.

Example

Helloworld = 10 characters
INC24 = 5 characters

Hint: Loop until you find the terminate character.

string.h
A library for string processing

1. **String length** **strlen()**
2. **String compare** **strcmp()**
3. **String copy** **strcpy()**
4. **String concatenate** **strcat()**

Example 2

```
#include <stdio.h>
#include <string.h>

main() {
   char s1[10]="ABCD", s2[10]="ABCD", s3[10]="abcd";
   int a,b,c,n;
   a = strcmp(s1, s2);
   b = strcmp(s1, s3);
   c = strcmp(s3, s1);
   strcpy(s1, s3);
   strcpy(s1, "1234");
   strcat(s1, "Hello");
   n = strlen(s1);
}
```

Example 3

```
#include <stdio.h>
main() {
  char list[3][10] = {“John”,”Doe”,”Peter”};

  printf(“%s”,list[0]);
  printf(“%s”,list[1]);
  printf(“%s”,list[2]);
}
```

Task 2 (Upload in LEB2)

```
char list[3][10] = {“John”,”Doe”,”Peter”};
```

From the list above, write a program/flowchart that receives a string from the keyboard and search whether the string is the name on the list.

Print out “Yes” or “No”.

You can use the strcmp() function.

Hint: Compare one-by-one name
Use list[0] list[1] list[2] for each string.