03603111: Programming Fundamentals I

		Lab
	String	**9**

Objective:

- Understand character constant and character array
- Be able to use functions related to character constant and character array properly

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Exercise 1. What is the output of this program ?

```c
#include<stdio.h>
#include<ctype.h>
 int main(){
  char a[] = {'a','\n',' ','9','A'};
  int i;
  for(i=0; i<5; i++) {
    if (isdigit(a[i]))
      printf("Digit\n");
    else if (isspace(a[i]))
      printf("Whitespace\n");
    else if (isalpha(a[i]))
      printf("Letter\n");
    else if (iscntrl(a[i]))
      printf("Control character\n");
    else
      printf("Sorry, I don\'t know.\n");
  }
}
```

Exercise 2. What is the output of this program ?

```c
#include<stdio.h>
#include<ctype.h>
void main(){
   char a[] = {'a','\n',' ','9','A'};
   int i, sum=0;
   for(i=0; i<5; i++) {
        sum += toupper(a[i]);
   }
   printf("%d\n", sum);
}
```

Exercise 3. Answer the following questions.

- What character is used to terminate a String ?
- Is 'C' the same as "C" ?
- Which one is a character and which one is a string ?

Exercise 4. What is the output of this program ?

```c
#include<stdio.h>
#include<string.h>
void main(){
   char a[] = "SIIT";
   char b[] = "Thammasat";
   char c[] = "University";
   char d[] = "Computer Science";
   if (strcmp(a,b)>0)
     printf("%s %s\n",a,b);
   else {
     if (strcmp(d,c)<0) {
        printf("%s,%s %s\n",a,b,c);
     }
     if (strcmp(c,a)>0) {
        printf("%s\n",d);
} } }
```

Exercise 5. What is the output of this program ?

```c
#include<stdio.h>
#include<string.h>
void main() {
   char s[256];
   char w1[]="String ";
   char w2[]="Concatenating ";
   char w3[]="strcat.";
   char w4[]="can be done by ";
   strcpy(s, w1); strcat(s, w2);
   strcat(s, w4); strcat(s, w3);
   printf("%s\n",s);
}
```

Exercise 6. What is the output of this program ?

```c
#include<stdio.h>
#include<stdlib.h>
void main(){
   double d;
   int i;
   long int l;
   int sum;

   d = atof("99.0");
   i = atoi("12");
   l = atol("102");

   sum = d + i + l;
   printf("%d\n",sum);
}
```

Exercise 7. Answer the following questions.

- What is the meaning of 0 ?
- What is the meaning of '0', ?
- What is the meaning of '\0' ?
- What is the meaning of "0" ?