

**OBJECTIVE :** Structure with functions and String Operations

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## Use **POINTER** notation instead of **SUBSCRIPT** notation!

1. Write a C program that will **input** and **display** a sentence. Try entering the sentence first with **%s** and then **%[^\n]** to see the difference. Also Use **%[^0-9]** then display the sentence.

**Example Run(using %s):**

Enter a sentence: Banks Look to Cellphones to Replace ATM Cards

The sentence is : Banks

**Example Run(using %[^\n]):**

Enter a sentence: Banks Look to Cellphones to Replace ATM Cards

The sentence is : Banks Look to Cellphones to Replace ATM Cards

**Example Run(using %[^0-9]):**

Enter a sentence: there are 99 bottles on the wall.

The sentence is : there are

**Project Name:** LG3\_1

**File Name:** Q1.cpp

2. Write a C program that finds the encrypted form of the words. Program gets the number of words from the user.
  - Use a structure array that consists of the word and the length of the word. Use dynamic memory allocation for the creation of the said array.
  - Write the function `simplEncrypt()`: That gets the length of a word and add that number to all characters in a word. The function should, then, return the encrypted form of the words for them to be displayed at the end of execution at main.

**Example Run:**

Enter the number of words:5

Enter the 1. word : do  
Enter the 2. word : not  
Enter the 3. word : blank  
Enter the 4. word : use  
Enter the 5. word : asdfg

The encrypted form of the 1. word is fq.  
The encrypted form of the 2. word is qrw.  
The encrypted form of the 3. word is qqfsp.  
The encrypted form of the 4. word is xvh.  
The encrypted form of the 5. word is fxikl.

**Project Name:** LG3\_2

**Source Name:** Q2.cpp

3. In a factory the data about 3 departments and 10 workers in each exists. Departments' information are stored as an id and name. Workers has got id, name, age, worked\_hour and salary.

- Write a function that gets all data from a file.
- Write a function that calculates the salaries of all employees in all departments.
- Write a function that displays departments and the employees in a given format.

Write a C program that gets 3 departments id and name and it's employees from a file named **employee.txt**. Then program calculates the salaries of all employees in all departments. Employees which are worked until 40 hour gets 2.0 TL for per hour, if an employee worked more than 40 hours gets 5.0 TL per extra hours to their salaries. Then program displays the information as in the example run. **Notice: You must use nested structure!!**

**Employee.txt**

```
61 HUMAN RESOURCE MANAGEMENT
111 Ali 22 50
222 Ayse 25 45
333 Hasan 26 57
444 Murat 27 34
555 Gamze 23 23
666 Emre 28 12
777 Aydin 24 45
888 Firat 30 43
999 Deniz 31 32
121 Can 29 52
59 TECHNICAL SUPPORT
101 Cansu 25 36
102 Nihan 24 45
103 Osman 38 56
104 Kamil 21 55
105 Adnan 29 48
106 Mustafa 31 49
107 Kaan 33 51
108 Alperen 34 57
109 Ahmet 30 50
110 Zehra 36 40
65 SOFTWARE ENGINEERING
201 Tolga 27 45
202 Cemile 32 46
203 Fatih 27 50
204 Gokcen 26 48
205 Merve 28 42
206 Elif 29 41
207 Anil 36 50
208 Ozkan 40 50
209 Mehmet 26 49
210 Cemil 27 41
```

**EXAMPLE RUN:**

```
INFORMATION OF A HUMAN RESOURCE MANAGEMENT DEPARTMENT
ID NAME AGE HOURS WORKED SALARY
*** *****
111 Ali 22 50 130.00TL
222 Ayse 25 45 105.00TL
333 Hasan 26 57 165.00TL
444 Murat 27 34 68.00TL
555 Gamze 23 23 46.00TL
666 Emre 28 12 24.00TL
777 Aydin 24 45 105.00TL
888 Firat 30 43 95.00TL
999 Deniz 31 32 64.00TL
121 Can 29 52 140.00TL

INFORMATION OF A TECHNICAL SUPPORT DEPARTMENT
ID NAME AGE HOURS WORKED SALARY
*** *****
101 Cansu 25 36 72.00TL
102 Nihan 24 45 105.00TL
103 Osman 38 56 160.00TL
104 Kamil 21 55 155.00TL
105 Adnan 29 48 120.00TL
106 Mustafa 31 49 125.00TL
107 Kaan 33 51 135.00TL
108 Alperen 34 57 165.00TL
109 Ahmet 30 50 130.00TL
110 Zehra 36 40 80.00TL

INFORMATION OF A SOFTWARE ENGINEERING DEPARTMENT
ID NAME AGE HOURS WORKED SALARY
*** *****
201 Tolga 27 45 105.00TL
202 Cemile 32 46 110.00TL
203 Fatih 27 50 130.00TL
204 Gokcen 26 48 120.00TL
205 Merve 28 42 90.00TL
206 Elif 29 41 85.00TL
207 Anil 36 50 130.00TL
208 Ozkan 40 50 130.00TL
209 Mehmet 26 49 125.00TL
210 Cemil 27 41 85.00TL
```

**Project Name:** LG3\_3  
**File Name:** Q3.cpp