



# NUST

NATIONAL UNIVERSITY  
OF SCIENCES & TECHNOLOGY

**Nust Balochistan Campus**  
**Department Of Computer Science**  
3<sup>rd</sup> Semester

**Computer Organization and Assembly Language**  
Semester Project  
**Word Finding Program**

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# Word Finding Program

## **Introduction:**

A program that finds word picked by the user by just asking some related questions about the word and based on the given answers display the picked word. The main goal of this project is to understand programming and algorithm yet build a very efficient program using assembly language. That will efficiently show the desired word from the collections of rows and columns.

## **Motivation:**

The motivation for this project is that we will be building every stuff in this program including the algorithm ourselves without using the help of internet. Designing a program which is already designed is easy to create but building something from scratch is challenging and that is our motivation. We will build our logic by ourselves and then we will convert our logic in assembly language.

## **Tools and language:**

Tools used for this program will be: NASM, Assembly library

Language: Assembly language

## **Working of the program:**

The program will prompt the user to enter the size of picked word

Then the program based on the given size will display matrix of alphabets

The user will be prompt to enter the column number the first letter lie in

Then the user will enter the column number of second letter

The user will keep entering the column number until the size of the word reached

Then the program will transpose the columns entered by the user

The program will ask the user to enter the number of row the letter lies in

Then the program will continue getting the number of rows of the letters till the total number of letters reach

By this time the program know all the rows and column numbers of each letter

Based on the picked rows and columns the program will find the picked word and displays

**Example:**

Enter the total number of letters:

4

The program will generate columns according to number of letters

	1	2	3	4
1	A	B	C	D
2	E	F	G	H
3	I	J	K	L
4	M	N	O	P
5	Q	R	S	T
6	U	V	W	X
7	Y	Z		

Enter column of first letter: 3

Enter column of second letter: 3

Enter column of third letter: 2

Enter column of forth letter: 4

The program will transpose the entered columns into rows:

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
<b>C</b>	<b>G</b>	<b>K</b>	<b>O</b>	<b>S</b>	<b>W</b>	
<b>C</b>	<b>G</b>	<b>K</b>	<b>O</b>	<b>S</b>	<b>W</b>	
<b>B</b>	<b>F</b>	<b>J</b>	<b>N</b>	<b>R</b>	<b>V</b>	<b>Z</b>
<b>D</b>	<b>H</b>	<b>L</b>	<b>E</b>	<b>T</b>	<b>X</b>	

Enter column of first letter: 6

Enter column of second letter: 4

Enter column of third letter: 5

Enter column of forth letter: 1

Then the program guess the word based upon respective rows and columns

\*\*\*\*\*  
\* **WORD** \*  
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