

# Introduction to Programming 1

## Lab: 9

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- 1) Write a program to answer inquiries about student data. Using a menu driven user interface, provide the capability to print out the scores, average, or grade for a student. A fourth menu option is to provide all information about a given student. All array functions are to receive the array as pointer and use pointer arithmetic.

The data shown in the following table will be stored in a two dimensional array.

ID	QUIZ1	QUIZ2	QUIZ3	QUIZ4	QUIZ5
1234	52	7	100	78	34
1947	45	40	88	78	55
2134	90	36	90	77	30
2877	55	50	99	78	80
3124	100	45	20	90	70
3189	22	70	100	78	77
4532	11	17	81	32	77
4602	89	50	91	78	60
5405	11	11	0	78	10
5678	20	12	45	78	34
6134	34	80	55	78	45
6999	0	98	89	78	20
7874	60	100	56	78	78
8026	70	10	66	79	56
9893	34	9	77	68	20

- 2) [ Project Morse code ] It was patented by Samuel F. B. Morse in 1837, is the language that was used to send messages by telegraph from the middle of the nineteenth century until the advent of the modern telephone and today's computer-controlled communication systems. In Morse code, each letter in the alphabet is represented by a series of dots and dashes as shown in the following table.

Letter	Code	Letter	Code	Letter	Code	Letter	Code
A	. -	H	....	O	- - -	V	... -
B	- ...	I	..	P	. - . .	W	. - -
C	- . . .	J	. - - -	Q	- - . -	X	- . . -
D	- . .	K	- . -	R	. - .	Y	- . - -
E	.	L	. - . .	S	. . .	Z	- - . .
F	. . - .	M	- -	T	-		
G	- - .	N	- .	U	. . -		

Write a program that encodes (converts) a line of text to Morse code and decodes (converts) Morse code to a line of text. Use your own design element to develop this project.