1) Write a program in C to reverse the digits of the following integer array of size 9. Initialize the input array to the following values.
   Input array: 18, 523, 301, 1234, 2, 14, 108, 150, 1928
   Output array: 81, 325, 103, 4321, 2, 41, 801, 51, 8291

2) Write a program in C to simulate the all the operations of a calculator. Given inputs A and B, find the output for A+B, A-B, A*B and A/B.

3) Write a program in C to toggle the character of a given string.
   Example: suppose the string is “HeLLo”, then the output should be “hEllO”.

4) Write a C program to read a word of length N and produce the pattern as shown in the example.
   Example: Input: PCBD Output: PCCBBBDDDD

5) Write a C program to read two strings S1 and S2 of same length and produce the resultant string as shown below.
   S1: string S2: length Resultant String: slternigntgh

6) Write a C program to perform Matrix times vector product operation.

7) Write a C program to read a matrix A of size 5x5. It produces a resultant matrix B of size 5x5. It sets all the principal diagonal elements of B matrix with 0. It replaces each row elements in the B matrix in the following manner. If the element is below the principal diagonal it replaces it with the maximum value of the row in the A matrix having the same row number of B. If the element is above the principal diagonal it replaces it with the minimum value of the row in the A matrix having the same row number of B.

   Example:

A				
1	2	3	4	5
5	4	3	2	4
10	3	13	14	15
11	2	11	33	44
1	12	5	4	6

B				
0	1	1	1	1
5	0	2	2	2
15	15	0	3	3
44	44	44	0	2
12	12	12	12	0

8) Write a C program that reads a matrix of size MxN and produce an output matrix B of same size such that it replaces all the non-border elements of A with its equivalent 1's complement and remaining elements same as matrix A. Also produce a matrix D as shown below.
Example:
A

1	2	3	4
6	5	8	3
2	4	10	1
9	1	2	5

B

1	2	3	4
6	**10**	**111**	3
2	**11**	**101**	1
9	1	2	5

D

1	2	3	4
6	**2**	**7**	3
2	**3**	**5**	1
9	1	2	5

9) Write a C program that reads a character type matrix and integer type matrix B of size MxN. It produces and output string STR such that, every character of A is repeated r times (where r is the integer value in matrix B which is having the same index as that of the character taken in A).

Example:

A			
p	C	a	P
e	X	a	M

B			
1	2	4	3
2	4	3	2

Output string STR: pCCaaaaPPPeeXXXXaaaMM