

Programming 1: Lab 6 : Loops

Write the python code for the following questions. Handle all the valid and invalid test cases. Write down relevant comments in your code:

1. Display the following multiplication table:

Multiplication Table									
	1	2	3	4	5	6	7	8	9
1	1	2	3	4	5	6	7	8	9
2	2	4	6	8	10	12	14	16	18
3	3	6	9	12	15	18	21	24	27
4	4	8	12	16	20	24	28	32	36
5	5	10	15	20	25	30	35	40	45
6	6	12	18	24	30	36	42	48	54
7	7	14	21	28	35	42	49	56	63
8	8	16	24	32	40	48	56	64	72
9	9	18	27	36	45	54	63	72	81

2. Take a positive number N as input and display all the numbers that are not divisible by N and lie in the range 1 – 1000. Use continue statement with while loop.
3. Display the following patterns for N lines (value of N taken from the user) using while loop:

a)	b)	c)
*	*	*
* *	* *	***
* * *	* * *	*****
* * * *	* * * *	*****
(till N lines)	(till N lines)	(till N lines)

4. Take an positive integer as input from the user and display its binary equivalent via the long division method. (without using any inbuilt function or format specifier). The final result should be displayed as a string. Check if the result matches the output of inbuilt bin() function.
5. Find the LCM of N positive numbers, where value of N is taken as input from the user.
6. Find the GCD of N positive numbers, where value of N is taken as input from the user.
7. Print the following table to display the **sin** value and **cos** value of degrees from 0 to 360 with increments of 10 degrees. Round the value to keep four digits after the decimal point.

Degree	Sin	Cos
0	0.0000	1.0000
10	0.1736	0.9848
...		
350	-0.1736	0.9848
360	0.0000	1.0000

8. Display the pattern using nested loops:

```

*
* *
* * *
* * * *
(till N lines)

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