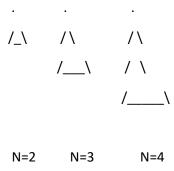
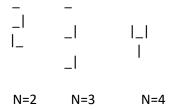
(Series, Patterns)

- 1. Write a function called check-season, it takes a month parameter and returns the season: Autumn, Winter, Spring or Summer.
- 2. Write a function called calculate_slope which return the slope of a linear equation
- 3. Quadratic equation is calculated as follows: $ax^2 + bx + c = 0$. Write a function which calculates solution set of a quadratic equation, solve quadratic eqn.
- 4. Declare a function named print_list. It takes a list as a parameter and it prints out each element of the list.
- 5. Declare a function named reverse_list. It takes an array as a parameter and it returns the reverse of the array (use loops).
- 6. Compute the sum up to n terms in the series 1 1/2 + 1/3 1/4 + 1/5 ... 1/n where n is a positive integer and input by user.
- 7. Write a program to compute $\sin x$ for given x. The user should supply x and a positive integer n. We compute the sine of x using the series and the computation should use all terms in the series up through the term involving xn $\sin x = x x3/3! + x5/5! x7/7! + x9/9! \dots$
- 8. Write a program to compute cosine of x. The user should supply x and a positive integer n. We compute the cosine of x using the series and the computation should use all terms in the series up through the term involving xn $\cos x = 1 x2/2! + x4/4! x6/6! \dots$
- 9. Print the pattern upto N Lines:



10. Print a number as a 8 segment display N Lines:



11. Print the pattern upto N lines:

1 2	1 2 3	1 2 3 4
4 3	8 9 4	12 13 14 5
	7 6 5	11 16 15 6

N=2 N=3 N=4

12. Write a python script that displays the following table

11111

21248

3 1 3 9 27

4 1 4 16 64

5 1 5 25 125