1. Take input of a number and check whether it is a prime number
2. Create a list of marks for 30 students. Mark them between 1 to 100 and apply grade to them as below –

|  |  |
| --- | --- |
| Score Range | Grade |
| 1-40 | F |
| 40-50 | D |
| 50-60 | C |
| 60-70 | B |
| 70-80 | A |
| 80-90 | Ex |
| 90 - 100 | Top |

1. Write a function to check whether a given year is a leap year. *(Hint: Leap years are divisible by 4. Year which is multiple of 100 is leap year if it’s divisible by 400)*
2. Take a Sentence and write a function to count the vowels appeared in the sentence.

Hint -

* 1. Run a loop through list of vowels
  2. Check whether that vowel appeared in the sentence or not
  3. Remember python is case sensitive.

1. Write a program to create a simple calculator. (*keep only basic operations - addition, subtraction, multiplication, division. For each operation write a separate function.*)
2. Write a function to generate multiplication table for any number.
3. Take two 3x3 matrix and write a function to add them.

Hints:

* 1. Matrix is nothing but list of list
  2. Need two loops to read row and column
  3. For each step perform addition.

1. Write a function to calculate factorial in recursive way.