Laboratory 1 – Exercises

1. Create a random NumPy array of five rows and four columns. Using array indexing and slicing, display the items from row three to end and column two to end.
2. An integer, *n*, is said to be *perfect* when the sum of all of the proper divisors of *n* is equal to *n*. For example, 28 is a perfect number because its proper divisors are 1, 2, 4 , 7 and 14, and 1+2+4+7+14=28.
   Write a function that determines whether or not a positive integer is perfect. Your function will take one parameter. If that parameter is a perfect number then your function will return True, otherwise it will return False.
3. Create a class with the following methods:
   - Constructor (__init__) – This method should take the argument *text,* make it lower case, and remove all punctuation. Assume only the following punctuation is used: period, exclamation mark, comma and question mark. Assign this newly formatted text to a new attribute called *fmtText*.
   - strLength – This method should return the length of the text.

Test your methods to ensure they are working correctly.