

## TensorFlow Exercises

1. Create a tensor of the shape [2, 3] with all elements set to zero.
2. Let X be a tensor of [[1,2,3], [4,5,6]].  
Create a tensor of the same shape and dtype as X with all elements set to zero
3. Create a tensor of shape [2, 3] with all elements set to one.
4. Let X be a tensor of [[1,2,3], [4,5,6]].  
Create a tensor of the same shape and dtype as X with all elements set to one.
5. Create a tensor of the shape [3, 2], with all elements of 5.
6. Create a constant tensor of [[1, 3, 5], [4, 6, 8]], with dtype=float32
7. Create a constant tensor of the shape [2, 3], with all elements set to 4.
8. Create a 1-D tensor of 50 evenly spaced elements between 5 and 10 inclusive.
9. Create a random tensor of the shape [3, 2], with elements from a normal distribution of mean=0, standard deviation=2.
10. Create a random tensor of the shape [3, 2], with all elements from a uniform distribution that ranges from 0 to 2 (exclusive).
11. Let X be a tensor of [[1, 2], [3, 4], [5, 6]]. Shuffle X along its first dimension.
12. Let X be a random tensor of the shape [10, 10, 3], with elements from a unit normal distribution. Crop X with the shape of [5, 5, 3]. (hint: `out = tf.random_crop(X, [5, 5, 3])` )
13. Let X be a tensor [[-1, -2, -3], [0, 1, 2]] and Y be a tensor of zeros with the same shape as x. Return a boolean tensor that yields True if X does not equal Y elementwise. (hint : `out = tf.not_equal(X, Y)` )

### Mathematical Operations

(Assume some values for x, y, z)

14. Add x and y element-wise. (hint: `out = tf.add(x, y)` )
15. Subtract y from x element-wise.
16. Multiply x by y element-wise.
17. Multiply x by 5 element-wise.
18. Add x, y, and z element-wise.
19. View the output using tensorboard for random questions

(PTO)

### Variables & Placeholders

20. Create a variable `w` with an initial value of 1.0 and name `weight`. Then, print out the value of `w`.
21. Write a program with three variables and get the sum of these three variables
22. Create a Placeholder. Assign a value to it and print the same.
23. Write a program with three Placeholders and get the sum of the three values given to these variables.