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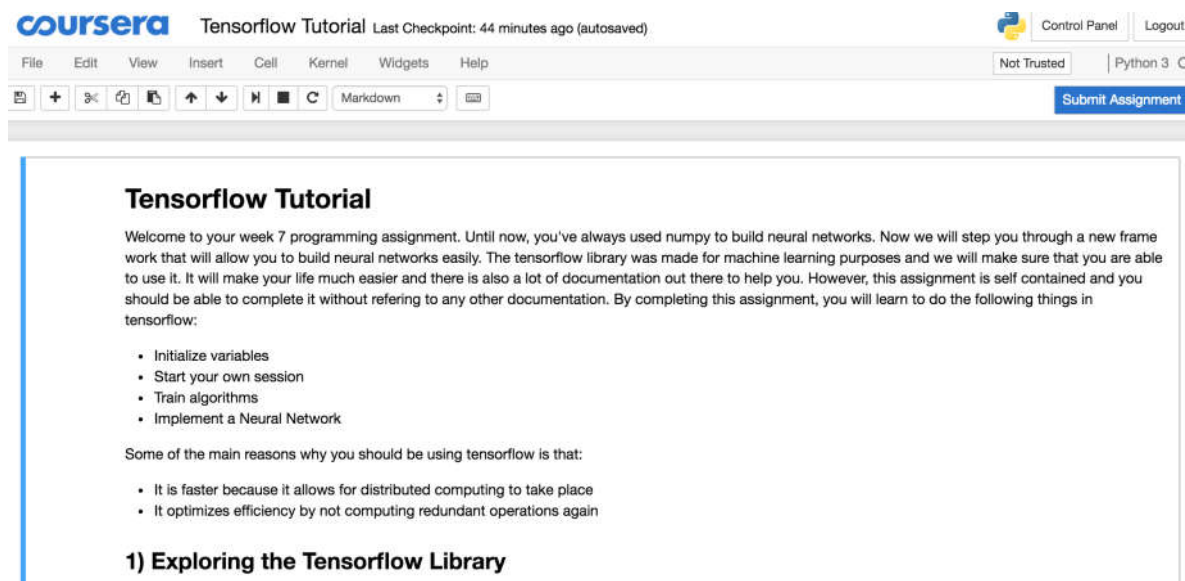
Please note that when you are working on the programming exercise you will find comments that say "# GRADED FUNCTION: functionName". Do not edit that comment. The function in that code block will be graded.

1) What is a Jupyter notebook?

A Jupyter notebook is a document that allows you to have executable code and text in the same web-page. With Jupyter notebooks you do not have to download anything on your computer to do the programming exercises. Everything is provided for you online. You will be completing the exercise as you scroll down the webpage without having to jump between different files.

2) What is the coursera hub?

The coursera hub is the workspace which contains the notebook, helper files, data sets, and images. To go to the hub, you should first be in the notebook:



The screenshot shows a Jupyter Notebook interface. At the top, the Coursera logo is on the left, followed by the title "Tensorflow Tutorial" and a status message "Last Checkpoint: 44 minutes ago (autosaved)". On the right, there are links for "Control Panel" and "Logout". Below this is a menu bar with options: File, Edit, View, Insert, Cell, Kernel, Widgets, and Help. To the right of the menu bar are buttons for "Not Trusted" and "Python 3". Below the menu bar is a toolbar with icons for file operations, editing, and execution. A "Submit Assignment" button is located on the right side of the toolbar. The main content area displays the text of the "Tensorflow Tutorial" notebook. It starts with a welcome message and a list of tasks: "Initialize variables", "Start your own session", "Train algorithms", and "Implement a Neural Network". It then discusses the reasons for using TensorFlow, such as its speed and efficiency. The section is titled "1) Exploring the Tensorflow Library".

Tensorflow Tutorial

Welcome to your week 7 programming assignment. Until now, you've always used numpy to build neural networks. Now we will step you through a new framework that will allow you to build neural networks easily. The tensorflow library was made for machine learning purposes and we will make sure that you are able to use it. It will make your life much easier and there is also a lot of documentation out there to help you. However, this assignment is self contained and you should be able to complete it without referring to any other documentation. By completing this assignment, you will learn to do the following things in tensorflow:

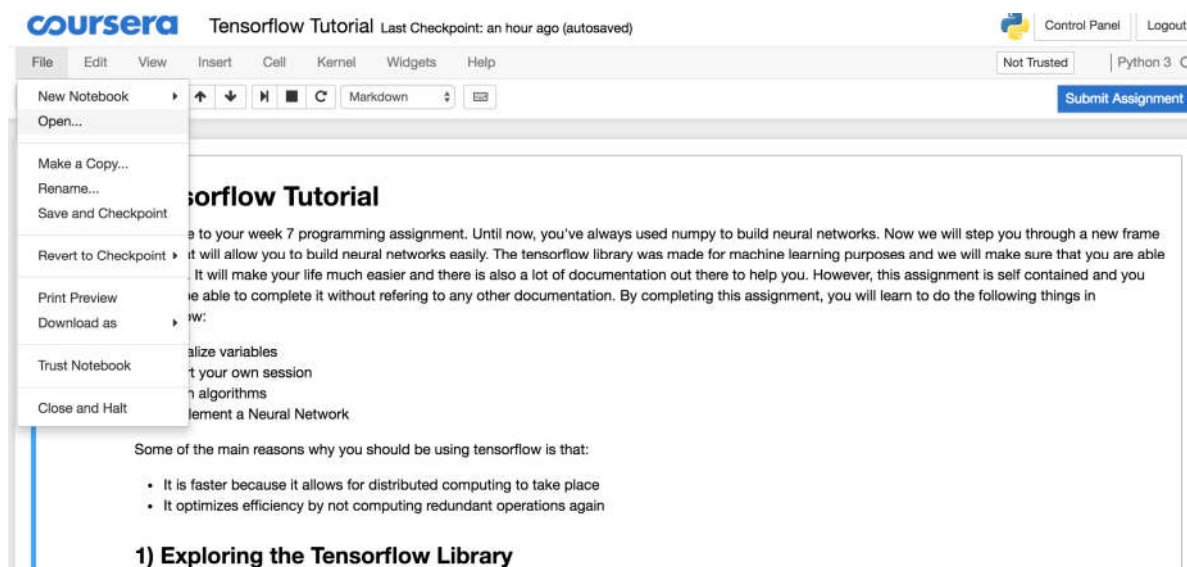
- Initialize variables
- Start your own session
- Train algorithms
- Implement a Neural Network

Some of the main reasons why you should be using tensorflow is that:

- It is faster because it allows for distributed computing to take place
- It optimizes efficiency by not computing redundant operations again

1) Exploring the Tensorflow Library

Click on File ==> Open as shown below:



This will lead you to an environment that has all your programming exercises and datasets. You should go there to check out any helper functions that we have provided for you.

3) How do I submit my assignment?

To submit the assignment, click on the blue button in the above image labelled "Submit Assignment."

4) How do I run a cell?

To run a cell, click on the cell and press **Shift & Enter**. You could also run the cell (or cells) by going to Cell and selecting one of the options:

The screenshot shows the Coursera Jupyter Notebook interface. The top bar includes the Coursera logo, the title 'Tensorflow Tutorial', and a status message 'Last Checkpoint: an hour ago (autosaved)'. On the right, there are links for 'Control Panel' and 'Logout', and a 'Not Trusted' warning. The main menu bar includes 'File', 'Edit', 'View', 'Insert', 'Cell', 'Kernel', 'Widgets', and 'Help'. The 'Cell' menu is open, showing options like 'Run Cells', 'Run Cells and Select Below', 'Run Cells and Insert Below', 'Run All', 'Run All Above', 'Run All Below', 'Cell Type', 'Current Outputs', and 'All Output'. The notebook content displays a 'Tensorflow Tutorial' page with a welcome message and a list of tasks: 'Initialize variables', 'Start your own session', 'Train algorithms', and 'Implement a Neural Network'. It also lists reasons for using tensorflow: 'It is faster because it allows for distributed computing to take place' and 'It optimizes efficiency by not computing redundant operations again'. The section title '1) Exploring the Tensorflow Library' is visible at the bottom.

5) What is a kernel?

You could think of the kernel as the core of the Jupyter notebook's operating system. Sometimes if the notebook blocks or if you want to clear all the variables and start all over again, rather than quitting the notebook and opening it again, you could:

This screenshot shows the same Coursera Jupyter Notebook interface, but with the 'Kernel' menu open. The 'Kernel' menu options include 'Interrupt', 'Restart', 'Restart & Clear Output', 'Restart & Run All', 'Reconnect', 'Shutdown', and 'Change kernel'. The notebook content is identical to the previous screenshot, showing the 'Tensorflow Tutorial' page with the same tasks and reasons for using tensorflow. The section title '1) Exploring the Tensorflow Library' is also present.

Restart the kernel and clear the output if you accidentally end up in some sort of infinite loop.

6) Why do I get different results every time I run the same cell?

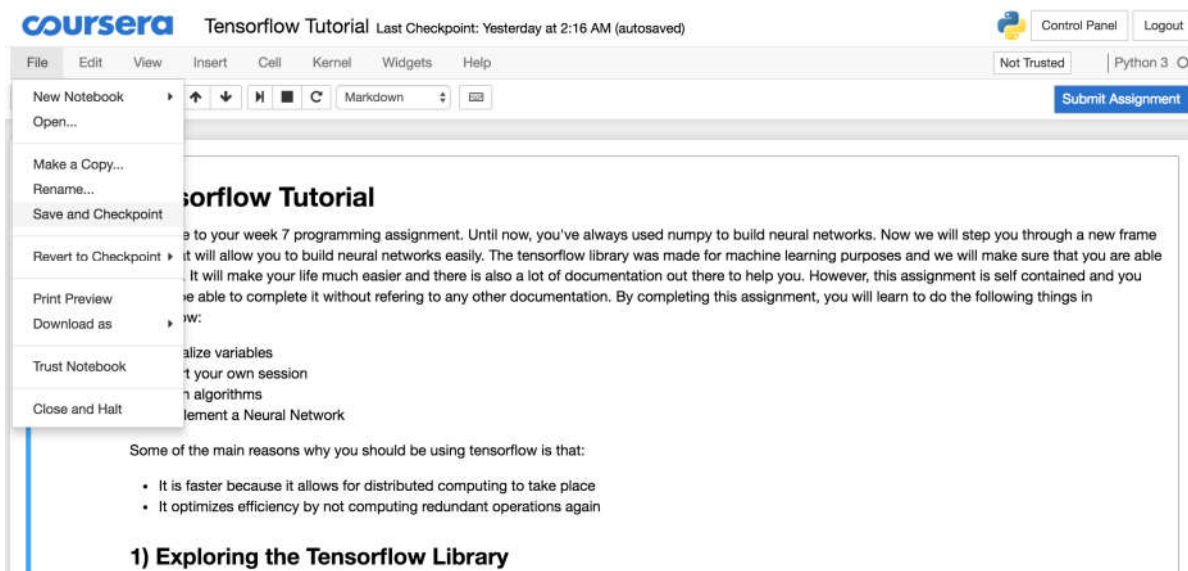
When you run a cell that updates some variable (e.g $x: x+1$), you will get different results for x as it keeps incrementing. Make sure you are not modifying your existing variables.

7) I got stuck on an assignment; what do I do?

In the Discussion Forums, there is a dedicated forum for each week of the course. You can post questions and get answers to them there. Please be sure to abide by the course Honor Code.

8) How do I save my progress?

Click on File ==> Save and Checkpoint



9) What should I do if my jupyter notebook froze?

Just restart the kernel by clicking on Kernel ==> Restart.

Mark as completed

