CS115 Introduction to Programming with Python
## Lab Guide 10

Objectives: Plotting, Experimental Data

1. Sally has money invested in a single account that compounds the return back into the account. The amount of money after the specified years is as follows:

Time	Amount
0	$5000
2	$5600
5	$6700
10	$9000
15	$12000
20	$16000

Write a script that does the following:

a. Load the data into two numpy arrays, `time` and `amount`.
b. Create the plot below, by first plotting `time` vs. `amount`.
c. Find the first-degree polynomials for the curve fitting these measurements and produce a plot of the curve in the format shown below. All formatting should be done according to the below chart.

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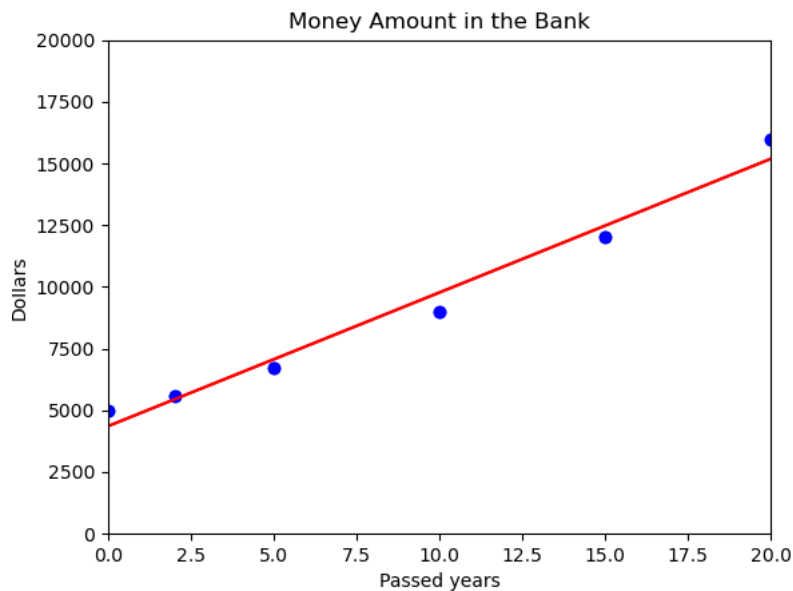
2. Download the file student.txt, and create a Python script that does the following:
   a. Import the data in the file `student.txt` into a numpy array, student (<u>gende</u>r:1-Female, 0-Male, <u>Preparation_completed</u>: 1- Completed, 0-Not Completed, <u>Math Grade</u>, <u>Reading Grade</u>, <u>Writing Grade</u>)
   b. Store the female data and male data into female and male arrays respectively.
   c. Open a new Figure1 window and create the bar charts for the <u>average of math grades</u> of the female and male students.
   d. Create two plots for the <u>reading and writing grades</u> of students who <u>completed the Preparation Course</u>.
   e. Create the pie chart for the <u>percentage of males and females</u>.