Lab 3 – Time (60 Minutes)

Material Required:

- **College Majors Data Workbook**
- **Students – make new tabs to record your answers from the exercise.**
- **MS Pivot Table Reference Page - https://bit.ly/3u4CPXP**

Topics Covered:

- **Pivot Tables**
- **Charts**

Exercise:

1. Make sure you open the "College Majors Data" workbook.
2. Make an answer sheet tab in the workbook to record answers when they apply. (some answers are formatting on the data itself)
3. Format the entirety of this data set as a table.
    a. Make sure to go to the bottom row of data entry and then select the data from the bottom up. Don't select the entire worksheet and then format as table (this will cause slow performance).
4. Calculate into the column "Unemployment Rate" the unemployment rate. Note, this compares the "Unemployed" as a ratio to the "Employed" and not the "Unemployed" to the "Total".
5. Format the cells of the "Unemployment Rate" column as percentage.
6. Format the columns "Median", "25th percentile of earnings", and "75th percentile of earnings" as currency with 2 decimal places.
7. Pivot Table
    a. Create a new table on a new sheet, based on our current table data set. For a refresher, see the MS Excel link at the top of this sheet. We are going to make a pivot table, so you can make the new sheet when you the pivot table as well.
    b. Select your data set, then go to the Insert Ribbon and make a pivot table from our data set.

c. Leverage the power of the Pivot Table to aggregate our data by the "Major Category" column. There are several majors that fall into each category, and we want a larger scale view of how graduates from these categories are fairing in employment.
d. Use the Pivot Table to analyze the following per each "Major Category"
    i. Number of Majors
    ii. Sum of Employed
    iii. Sum of Unemployed
    iv. Average of Unemployment Rate (display as %)
    v. Average of Median Income (display as currency)
    vi. Average of 25th Percentile Earnings (display as currency)
    vii. Average of 75th Percentile Earnings (display as currency)
e. A Sample of the table here:
f.

Row Labels	Number of Majors	Sum of Employed	Sum of Unemployed	Average of Unemployment Rate	Average of Median	Average of 25th percentile of earnings	Average of 75th percentile of earnings
Agriculture & Natural Resources	10	480,415	18,551	4.13%	$55,000.00	$36,550.00	$81,300.00
Arts	8	1,308,695	104,125	9.71%	$43,525.00	$29,112.50	$64,500.00
Biology & Life Science	14	947,058	57,335	5.28%	$50,821.43	$33,214.29	$78,771.43
Business	13	7,529,851	434,397	5.77%	$60,615.38	$41,853.85	$91,461.54
Communications & Journalism	4	1,423,041	101,199	7.43%	$49,500.00	$34,000.00	$76,250.00
Computers & Mathematics	11	1,410,607	79,974	6.36%	$66,272.73	$43,427.27	$95,818.18
Education	16	2,833,199	125,336	4.97%	$43,831.25	$33,221.88	$58,456.25
Engineering	29	2,621,966	146,389	5.36%	$77,758.62	$52,458.62	$108,534.48
Health	12	2,192,692	75,013	4.98%	$56,458.33	$40,066.67	$77,500.00
Humanities & Liberal Arts	15	2,499,175	179,136	7.47%	$46,080.00	$31,413.33	$70,933.33
Industrial Arts & Consumer Services	7	753,782	40,360	6.26%	$52,642.86	$35,064.29	$76,857.14
Interdisciplinary	1	35,706	2,990	8.37%	$43,000.00	$32,000.00	$55,000.00
Law & Public Policy	5	718,924	43,049	7.29%	$52,800.00	$36,200.00	$78,800.00
Physical Sciences	10	707,126	38,221	5.79%	$62,400.00	$39,670.00	$92,000.00
Psychology & Social Work	9	1,411,983	104,206	8.46%	$44,555.56	$31,011.11	$64,333.33
Social Science	9	1,871,803	132,150	7.03%	$53,222.22	$37,144.44	$81,222.22
Grand Total	173	28,746,023	1,682,431	6.13%	$56,816.18	$38,697.11	$82,506.36

8. Using this data generated from our pivot table, make the following charts.
    a. A Pie Chart comparing
        i. Major Categories and Average Unemployment Rate
    b. A Pie Chart comparing:
        i. Major Categories and Average Median Income
    c. A Clustered Bar Graph comparing each Major Category on:
        i. Sum of Employed
        ii. Sum of Unemployed
9. Finished!