**Python code test for budding geographers/cartographers/spatial scientists.**

These tasks all cover basic material in the course content over the past few weeks. The Mason honor code applies.

1. Create a list of dictionaries (with a maximum of 3 dictionaries). Each dictionary should reflect one year of your classes taken. Use the class name as the key, and the module number as the value. Use a for loop to print each value (5 points).
2. Load in countries\_demo\_data.csv using pandas. Using a for loop print the iso3 and country code to the console for each row (5 points).
3. Load in countries\_demo\_data.csv using pandas. Using a for loop print the cumulative population iteratively for each row (5 points).
4. Load in countries\_demo\_data.csv using pandas. Subset the dataframe for only those countries in Asia. Print the df to the console (5 points).
5. Load in countries\_demo\_data.csv using pandas. Subset the dataframe for only those countries with a population below 500 million people. Print the df to the console (5 points).
6. Explain why a pandas for loop, when using iterrows():, may have two iteration components (the parts between the ‘for’ and the ‘in’) (5 points).
7. Create a new folder called ‘my\_demo\_folder’ (5 points).
8. Check if ‘my\_demo\_folder’ exists, and if so print a string to the console stating ‘my\_demo\_folder exists’ (5 points)
9. Load in countries\_demo\_data.csv using pandas. Iterate over each row using a for loop and print the following string with the iso3 code inserted at the end ‘the iso3 code is …’ (5 points).
10. Load in countries\_demo\_data.csv using pandas. Subset only the iso3, country and population columns and print the df to the console (5 points).

50 points are available for providing the correct code. The easiest way is copying screenshots of your notebook into your submission document, so the answers can be reviewed on blackboard (just make sure the code/text is large enough).

Due 11am on Monday 27th February 2023.