| **Mission 15 Assignment** | **Name:** |
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| **Pre-Mission Preparation** | |
| This mission will use files and file operations. Which file operations do you remember from Mission 14? | Answers will vary. Possible answers include:<br>• open()<br>• open(filename, 'r')<br>• open(filename, 'w')<br>• read()<br>• readlines()<br>• close()<br>• flush()<br>• split() – really a string function, but might be included<br>• write() |
| **Mission 15 Checks** | |
| Objective #1<br>What are the parts of an email? | • "From" - the sender<br>• "To" – the recipient<br>• "Date" – date email was sent<br>• "Subject" – brief or title<br>• "Body" – content |
| Objective #2<br>What is the code for reading a file using "with" and "readline"? | with open(email_file, 'r') as f:<br>file_contents = f.readlines() |
| Objective #3<br>What whitespace characters are removed with strip()? | Newlines ('\n') carriage returns ('\r')<br>Tabs ('\t') spaces (' ') |
| What programming code is used with strip() to remove whitespace? | for line in f:<br>email = email + line.strip() |
| What does + mean when used with a string? | Append or concatenate – joins the two strings together |
| Objective #4<br>What code identifies a string that begins with a specified word or letter? | line.startswith('Date: ') |
| What is the code for slicing a string: | clean_line[6:]<br>This will start at the 6th character and go to the end of the string |
| Objective #5<br>How is the body of the email different from the header? | Answers will vary. Possible answers:<br>• The body can be multiple lines<br>• It doesn't start with 'Body: '<br>• It is separated from the header by an empty line<br>• It is separated with '\r\n', and everything after is the body |
| What condition checks for the start of the email body? | elif line.strip() == '': |

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| Objective #6<br>What is the code to find and replace 'virus' in the body of an email? | if 'virus' in email['body']:<br>  print("found virus, removing it")<br>email['body'] = email.['body'].replace('virus', 'REMOVED')<br>return True |
| Objective #7<br>What code checks to see if a file exists? | if not os.path.exists('blocklist.csv'): |
| What code adds a comma at the end of a string? | bl_entry = eml['from'] + ',' |
| Objective #8<br>What is the code for checking for an email sent by someone on the blocklist and removing the email? | with open('blocklist.csv', 'r') as f:<br>data = f.read()<br>blocklist = data.split(',')<br>if sender in blocklist:<br>os.remove(filename) |
| Objective #9<br>What code is added to the beginning of the program? | A list of email filenames |
| What code is added to the end of the program? | A for loop that iterates over the list of email filenames and<br>• Decodes each email<br>• Scans email for a virus<br>• Runs the email through the filter |
| **Post-Mission Reflection** | |
| This mission showed more file operations, string operations, and ways to work with files. List some specific things you learned during this mission: | Answers will vary. Possible answers can include:<br>• Opening a file in append mode<br>• Opening a file using 'with'<br>• Splitting a string<br>• Stripping whitespace<br>• Finding and replacing a word in a string<br>• Splitting a string<br>• Removing a filename from a file<br>• Using 'startswith' |
| Besides checking emails, or a spam filter, what other applications can you think of where file operations and working with files is required? | Answers will vary |