

Question 1

1. This code is saved in 2_1.py
2. The program prompts the user to enter a positive number and output the approximation of its square root.
3. The input can be anything, but only positive number input can be executed.
4. Execute as followings:

```
PS C:\Users\24984\Desktop\CSC1001\Assignments\2> & 'C:\Users\24984\AppData\Local\Programs\Python\Python39\python.exe' 'c:\Users\24984\.vscode\extensions\ms-python.python-2021.3.658691958\pythonFiles\lib\python\debugpy\launcher' '50618' '--' 'c:\Users\24984\Desktop\CSC1001\Assignments\2\2_1.py'
Please enter a positive number:dasda
The input must be a positive number!
Please enter a positive number:-1231.123
The number should be positive!
Please enter a positive number:10.23
The approximation of its square root is 3.198437
```

Question 2

1. This code is saved in 2_2.py
2. The program displays the first 100 emirps. And it displays 10 numbers per line and align the numbers properly.
3. No need to input.
4. Execute as followings:

```
PS C:\Users\24984\Desktop\CSC1001\Assignments\2> c;; cd 'c:\Users\24984\Desktop\CSC1001\Assignments\2'; & 'C:\Users\24984\AppData\Local\Programs\Python\Python39\python.exe' 'c:\Users\24984\.vscode\extensions\ms-python.python-2021.3.658691958\pythonFiles\lib\python\debugpy\launcher' '50737' '--' 'c:\Users\24984\Desktop\CSC1001\Assignments\2\2_2.py'
 13   17   31   37   71   73   79   97  107  113
149  157  167  179  199  311  337  347  359  389
701  709  733  739  743  751  761  769  907  937
941  953  967  971  983  991 1009 1021 1031 1033
1061 1069 1091 1097 1103 1109 1151 1153 1181 1193
1201 1213 1217 1223 1229 1231 1237 1249 1259 1279
1283 1301 1321 1381 1399 1409 1429 1439 1453 1471
1487 1499 1511 1523 1559 1583 1597 1601 1619 1657
1669 1723 1733 1741 1753 1789 1811 1831 1847 1867
1879 1901 1913 1933 1949 1979 3011 3019 3023 3049
```

Question 3

1. This code is saved in 2_3.py
2. The program prompts the user to enter a credit card number as an integer. And it displays whether the number is valid or invalid. The valid credit card number should begin with 4 or 5 or 37 or 6. And it should pass “Luhn check”.
3. The input can be anything, but only a positive integer number input can be judged whether it is valid or not. If user input includes alphabet, it will prompt user to input a positive integer number again.
4. Execute as followings:

```
PS C:\Users\24984\Desktop\CSC1001\Assignments\2> & 'C:\Users\24984\AppData\Local\Programs\Python\Python39\python.exe' 'c:\Users\24984\.vscode\extensions\ms-python.python-2021.3.658691958\pythonFiles\lib\python\debugpy\launcher' '50845' '--' 'c:\Users\24984\Desktop\CSC1001\Assignments\2\2_3.py'
Please enter a credit card number as an integer:qweqwe213
You should enter a credit card number as an integer!
Please enter a credit card number as an integer:-2131.2313
You should enter a credit card number as an integer!
Please enter a credit card number as an integer:4388576018410707
The number is valid.

PS C:\Users\24984\Desktop\CSC1001\Assignments\2> c;; cd 'c:\Users\24984\Desktop\CSC1001\Assignments\2'; & 'C:\Users\24984\AppData\Local\Programs\Python\Python39\python.exe' 'c:\Users\24984\.vscode\extensions\ms-python.python-2021.3.658691958\pythonFiles\lib\python\debugpy\launcher' '50858' '--' 'c:\Users\24984\Desktop\CSC1001\Assignments\2\2_3.py'
Please enter a credit card number as an integer:4388576018402626
The number is invalid
```

Question 4

1. This code is saved in 2_4.py
2. The program prompts the user to enter two strings and, if they are anagrams, displays ‘is an anagram’; otherwise, it displays ‘is not an anagram’.
3. The all input be words.
4. Execute as followings:

```
PS C:\Users\24984\Desktop\CSC1001\Assignments\2> & 'C:\Users\24984\AppData\Local\Programs\Python\Python39\python.exe' 'c:\Users\24984\.vscode\extensions\ms-python.python-2021.3.658691958\pythonFiles\lib\python\debugpy\launcher' '49974' '--' 'c:\Users\24984\Desktop\CSC1001\Assignments\2\2_4.py'
Please enter the first string:apple
Please enter the second string:ppael
is an anagram
```

