

Question 1:

1. This code is saved in Q1.py.
2. This program allows the user to enter a positive number and print its square root with accuracy of 0.001
3. Execute as followings:

```
Please enter a nonnegative number: 56
7.483
```

Question 2:

1. This code is saved in Q2.py.
2. This program gives out the first 100 emirps with 10 per line.
3. Execute as followings:

```
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 Q3.py.
2. This program allows the user to enter a credit card number and validate if it is real.
3. Execute as followings:

```
Please input a card number: 4388576018402626
4388576018402626 is invalid.
```

```
Please input a card number: 4388576018410707
4388576018410707 is valid.
```

Question 4:

1. This code is saved in Q4.py.
2. This program allows the user to enter two words and validate if they are anagram (upper case is considered the same with lower case).
3. Execute as followings:

```
Please input a word: Posrt
Please input a word: Strop
Posrt and Strop is an anagram.
```

Question 5:

1. This code is saved in Q5.py.
2. This program shows the status of every lock.
3. Execute as followings:

Open	Closed	Closed	Open	Closed	Closed	Closed	Closed	Open	Closed
Closed	Closed	Closed	Closed	Closed	Open	Closed	Closed	Closed	Closed
Closed	Closed	Closed	Closed	Open	Closed	Closed	Closed	Closed	Closed
Closed	Closed	Closed	Closed	Closed	Open	Closed	Closed	Closed	Closed
Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Open	Closed
Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed
Closed	Closed	Closed	Open	Closed	Closed	Closed	Closed	Closed	Closed
Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed
Open	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed
Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Closed	Open

Question 6:

1. This code is save in Q6.py.
2. This program shows the solutions of N-queens (default N=8) problem.
3. Execute as followings:

							Q	
		Q						
				Q				
			Q					
Q								
						Q		
			Q					
					Q			

							Q	
			Q					
Q								
					Q			
	Q							
				Q				
						Q		
			Q					

							Q	
				Q				
Q								
			Q					
					Q			
	Q							
						Q		
				Q				

There are 92 solutions in total.