Day 4 - Problem Set

Question 1 - Time Table Without Repetition

Write a program which prints out the time table similar to the one in the notes but does not include redundant calculations. So if you display `3 * 7 = 21` you should not display `7 * 3 = 21` or vice-versa. Only one should be displayed **not** both.

Question 2 - Prime Numbers

Write a program which finds and prints out all the prime numbers up to 100

Question 3 - Delete All

Write a program which asks the user to enter several numbers. You must then store the numbers in a list (in any order) and delete each of them one at a time until the list is empty. You must print out the list after deleting each element. The elements can be deleted in any order.

Example Output

```
How many numbers will you input? 3
Enter the 3 numbers:
7
3
-1
Here is the list after each element is deleted:
[7, 3, -1]
[7, 3]
[7]
[]
```

Question 4 - Reverse Repeat

Write a program which asks the user to enter several numbers. You must then print out the numbers they entered but in reverse order.

Example Output

```
How many numbers will you input? 3
Enter the 3 numbers:
7
3
-1
Here are the numbers in reverse:
-1
3
7
```

Question 5 - Sum Of List

Create a list of numbers and find the sum of the list. The code to find the sum should work for any list.

Example Output

```
Here is the list: [3, 7, 9]
Here is the sum: 19
```

Question 6 - Count In List

Create a list of numbers and ask the user to enter a key number. Print out how many times that key number is in the list.

Example Output

```
Enter the key number: 7
Number of times the key number is in the list: 2
```

Question 7 - Authentication

Create a list of user id numbers and PINs, where each element in the list of id numbers corresponds to a PIN. Ask the user to enter their user id number and their PIN. Print a message saying whether or not there is a match.

Example Output 1

```
 Enter your ID: 78
Enter your PIN: 34
Sorry, no matches found!
```

Example Output 2

```
 Enter your ID: 77
Enter your PIN: 35
User found, loggin in...
```