Coding Elements

Assignment 3

Conditions and Loops

1. Take N as input. If the number is prime, print “Prime” otherwise print “Not Prime”.

2. Take N as input. Print all prime numbers from 2 to N.

3. Take N as input. Calculate and print its reverse. Ex: 3247 will output 7423.
HINT: To get the last digit of 1234, you can get its remainder when divided by 10... (123**4** % 10 = **4**). Now divide 1234 by 10 to get 123 (integer division). And so on.
HINT: Given digits 4, 3, 2, 1, you can combine then back into a number. Start with 4. Multiply by 10 to get 40 and add 3 to get 43. Multiply by 10 to get 430 and add 2 to get 432. And so on.

4. Take N as input. Print the sum of its odd placed digits and sum of its even placed digits.

5. Take N as input. Print all Fibonacci numbers less than N.
HINT: Fibonacci is a series that starts with 0 and 1. Each of the following numbers is the sum of the previous 2 numbers. 0, 1, 1, 2, 3, 5, 8, 13, 21...

6. Take N as input. Print Nth Fibonacci number. 0 is the 0th Fibonacci number and 1 is 1st Fibonacci number.

7. Take N (number of rows), print the following pattern (for N = 4)

```
1
2 3
4 5 6
7 8 9 10
```

8. Take N (number of rows), print the following pattern (for N = 5)

```
1
2 2
3 0 3
4 0 0 4
5 0 0 0 5
```

9. Take N (number of rows), print the following pattern (for N = 6)

```
1
1 1
1 2 1
1 3 3 1
1 4 6 4 1
1 5 10 10 5 1
```

HINT: This is Pascal's triangle. Each item is a Binomial coefficient.

10. Take N (number of rows), print the following pattern (for N = 4)

```
0
1 1
2 3 5
8 13 21 34
```

HINT: These are Fibonacci numbers.

11. Take N (number of rows), print the following pattern (for N = 5)

```
    *
   * * *
  * * * * *
   * * *
    *
```

12. Take N (number of rows), print the following pattern (for N = 5)

```
* * *  * * *
* *      * *
*          *
* *      * *
* * *  * * *
```

13. Take N (number of rows), print the following pattern (for N = 4)

```
      1
    2 3 2
  3 4 5 4 3
4 5 6 7 6 5 4
```

14. Take N (number of rows), print the following pattern (for N = 3)

```
    1
  2 3 2
3 4 5 4 3
  2 3 2
    1
```

15. Take N (number of rows), print the following pattern (for N = 4)

```
1             1
1 2         2 1
1 2 3     3 2 1
1 2 3 4 3 2 1
```