Task 1

Write a Python function that takes the "amount" of money as user input. Then splits that money into 500, 100, 50, 20, 10, 5, 2, and 1 taka notes and print the final result.

==========

Hints:

This task's calculation is similar to Assignment-1's seconds to hours, minutes conversion.

==========

Example1:

Sample Input: 1234
Sample Output:
500 Taka: 2 note(s)
100 Taka: 2 note(s)
20 Taka: 1 note(s)
10 Taka: 1 note(s)
2 Taka: 2 note(s)

==========

Example2:

Sample Input: 151
Sample Output:
100 Taka: 1 note(s)
50 Taka: 1 note(s)
1 Taka: 1 note(s)

==========

Task 2

Write Python code of a program that reads three sides of a triangle and check whether the triangle is valid or not.

==========

Sample Input1:

7, 10, 5

Sample Output1:

Valid triangle

==========

Sample Input2:

2, 2, 4

Sample Output2:

Not a valid triangle

==========

Sample Input3:

7, 9, 12

Sample Output3:

Valid triangle

Task 3

Write a python code of a program that reads the values for the three sides x, y, and z of a triangle, and then calculates its area. The area is calculated as follows:

$$\textbf{Area} = s\sqrt{(s-x)(s-y)(s-z)} \qquad \textbf{where } s = \frac{x+y+z}{2}$$

==========

Sample Input1:

7, 10, 5

Sample Output1:

53.88877434122991

==========

Sample Input2:

7, 9, 12

Sample Output2:

117.13240371477058

==========

Task 4

Write Python code of a program that reads a number as a year and determines whether it is a leap year or not.

Three conditions are used to identify leap years:

- The year can be evenly divided by 4, is a leap year, unless
- The year can be evenly divided by 100, it is NOT a leap year, unless:
- The year is also evenly divisible by 400. Then it is a leap year.
  [which implies -
  if the year can be divided by 4 and NOT divided by 100, then it's a leap year.
  If the year can be divided by 4, divided by 100, and divided by 400, then it's a leap year.]

For example, the years 2000, 2024, 2028, and 2400 are leap years, while 1800, 1900, 2100, 2200, 2300, and 2500 are NOT leap years.

Here, 2000, 2400 are divided by 4, 100, and 400. Thus, leap year.

Here, 2024, 2028 are divided by 4 but not divided by 100. Thus, leap year.

==========

Sample Input1:

2500

Sample Output1:

Not a leap year

Explanation:

Here, 2500 is evenly divisible by 4 and 100. But it is not divisible by 400. So, 2500 is not a leap year.

==========

Sample Input2:
2024
Sample Output2:
A leap year
Explanation:
Here, 2024 is evenly divisible by 4 but not divisible by 100. So, 2024 is a leap year.
==========
Sample Input3:
2400
Sample Output3:
A leap year
Explanation:
Here, 2400 is evenly divisible by 4, 100, and 400. So, 2400 is a leap year.