



Purwadhika

Digital Technology School

Python Basic Exercise #4

Total Question: **6 Question**

Topic: **Problem Solving**

1. Find a "word" in a "spam" string, see how many times it appears.

```
# Example
spam = 'ababaababbbcccbabcc'
word = 'bab'

# Output
# 'Appeared 3 times'
```

2. Write a program that creates initials consisting of first alphabet in "first name" and first alphabet in "last name"

example: bayu dwi prasetya -> B.P

3. Write a simple program with a single integer variable named **upTo**. For the numbers 1 up to and including **upTo**, prints one of four things:

- Prints Fizz if the number is only divisible by 3.
- Prints FizzBuzz if the number is divisible by 3 and 5.
- Prints Buzz if the number is only divisible by 5.
- Prints the number if the number is neither divisible by 3 nor 5.

Instead of printing each string or number on a separate line, print them without newlines. For example, your solution is correct if calling upTo = 35 produces the following output:

```
1 2 Fizz 4 Buzz Fizz 7 8 Fizz Buzz 11 Fizz 13 14 FizzBuzz 16 17 Fizz 19 Buzz Fizz 22
23 Fizz Buzz 26 Fizz 28 29 FizzBuzz 31 32 Fizz 34 Buzz
```

4. The Fibonacci sequence is a famous mathematical pattern credited to Italian mathematician Fibonacci in the 13th century (though others had discovered it even earlier). The sequence begins with 0 and 1, and **the next number is always the sum of the previous two numbers**. The sequence continues forever.

Create a program to print as many Fibonacci numbers as the given numbers !

```
Enter the Nth Fibonacci number you wish to calculate or QUIT to quit: 10
0, 1, 1, 2, 3, 5, 8, 13, 21, 34
```

5. The Collatz sequence, also called the $3n + 1$ problem, is the simplest impossible math problem (But don't worry, the program itself is easy enough for beginners). From a starting number, n , follow three rules to get the next number in the sequence:

- If n is even, the next number n is $n / 2$.
- If n is odd, the next number n is $n * 3 + 1$.
- If n is 1, stop. Otherwise, repeat

Enter a starting number (greater than 0) or QUIT: 26
26, 13, 40, 20, 10, 5, 16, 8, 4, 2, 1

6. Create a program with the conditions below

- Use the "market.py" file created in the previous exercise.
- Add stock features. You are given the freedom to determine the stock amount of each fruit.
- When the user inputs the number of fruit he wants to buy that exceeds the stock amount, text will appear on the terminal in the form of information that the stock is less than demand and asks the user to input the amount again.
- When inputting payment, a similar thing will be applied, if the user inputs an amount of money that is less than it should be, text will appear on the terminal in the form of information that the money entered is still insufficient and asks the user to re-input the amount of money. Then for the text information, please display the amount of the shortfall that must be paid.

Proses Menentukan Jumlah Buah

Masukkan Jumlah Apel : 5
Masukkan Jumlah Jeruk : 8
Jumlah yang dimasukkan terlalu banyak
Stock Jeruk tinggal : 7
Masukkan Jumlah Jeruk : 9
Jumlah yang dimasukkan terlalu banyak
Stock Jeruk tinggal : 7
Masukkan Jumlah Jeruk : 7
Masukkan Jumlah Anggur : 8
Jumlah yang dimasukkan terlalu banyak
Stock Anggur tinggal : 6
Masukkan Jumlah Anggur : 6

Detail Belanja

Apel : $5 \times 10000 = 50000$
Jeruk : $7 \times 15000 = 105000$
Anggur : $6 \times 20000 = 120000$

Total : 275000

Proses Bayar

Detail Belanja

Apel : $5 \times 10000 = 50000$
Jeruk : $7 \times 15000 = 105000$
Anggur : $6 \times 20000 = 120000$

Total : 275000

Masukkan jumlah uang : 240000
Uang anda kurang sebesar 35000
Masukkan jumlah uang : 280000
Terima kasih

Uang kembali anda : 5000