1. **Profit and Loss**

Sam purchased x dozens of toys at the rate of Rs. y per dozen. He sold each one of them at the rate of Rs. z. Can you please help him out percentage of profit?

Given the values of x, y and z, write a program to compute Sam's profit percentage.

**Example:**

Dozens of toys purchased (x) = 20

Rate per dozen (y) = Rs. 375

Selling price per toy (z) = Rs. 33

Cost Price of 1 toy = 375/12 = Rs. 31.25

Selling Price of 1 toy = Rs.33

Profit = 33 - 31.25 = Rs. 1.75

Profit % = 1.75 / 31.25 \* 100 = 5.6%

**Input Format:**

Input consists of 3 integers – x, y and z.

x - Number of dozens purchased.

y - Cost per dozen.

z - Selling price per item.

**Output Format:**

Refer Sample Input and Output for formatting details. The profit percentage needs to be printed correct to 2 decimal places.

**Sample Input and Output:**

Enter the number of dozens of toys purchased

**20**

Enter the price per dozen

**375**

Enter the selling price of 1 toy

**33**

Sam's profit percentage is 5.60 percent

1. **Discount Calculation**

Calculate the discount based on the price of two items and the overall discount percentage.

**Input Format:**

1. Item 1 price as floating point
2. Item 2 price as floating point
3. Discount as integer

**Output Format:**

1. Total of Item 1 and Item 2
2. Price after discount (correct to 2 decimal places)
3. Amount discounted (correct to 2 decimal places)

**Sample Input and Output:**

Price of item 1 :

**20.50**

Price of item 2 :

**45.40**

Discount in percentage :

**10**

Total amount : $65.90

Discounted amount : $59.31

Saved amount : $6.59

3) **Compare 2 Integers**

Write a program to relate 2 integers entered by the user as equal to, less than or greater than.

**Input and Output Format:**

Input consists of 2 integers.

**Sample Input and Output 1:**

Enter the first number

**6**

Enter the second number

**8**

6 is less than 8

**Sample Input and Output 2:**

Enter the first number

**8**

Enter the second number

**6**

8 is greater than 6

**Sample Input and Output 3:**

Enter the first number

8

Enter the second number

8

8 is equal to 8

4) Secure URL

  Write a program to check whether the given URL is secure.

**Example:**

Secure URL: https://www.amazon.com/

**Sample Input and Output 1:**

Enter the string

[**http://www.amazon.com/**](http://www.amazon.com/)

Enter the start string

**https**

"[http://www.amazon.com/](https://www.amazon.com/)" does not start with "https"

**Sample Input and Output 2:**

Enter the string

[**https://www.amazon.com/**](https://www.amazon.com/)

Enter the start string

**https**

"<https://www.amazon.com/>" starts with "https"

**5) Replace Organization Name**

This program is to illustrate the use of the method replace() defined in the string API.

Two companies enter into a Marketing Agreement and they prepare an Agreement Draft. After that one of the companies changes its name. The name changes need to be made in the Agreement Draft as well. Write a program to perform the name changes in the agreement draft.

**Sample Input and Output :**

Enter the content of the document

**ITT is a private organisation. ITT is a product based company. DBox is a ITT product**

Enter the old name of the company

**ITT**

Enter the new name of the company

**TTT**

The content of the modified document is

**TTT is a private organisation. TTT is a product based company. DBox is a TTT product**

6) **Profit and Loss (Using Methods)**

Sam purchased x dozens of toys at the rate of Rs. y per dozen. He sold each one of them at the rate of Rs. z. Can you please help him out percentage of profit?

Given the values of x, y and z, write a program to compute Sam's profit percentage.

**Example:**

Dozens of toys purchased (x) = 20

Rate per dozen (y) = Rs. 375

Selling price per toy (z) = Rs. 33

Cost Price of 1 toy = 375/12 = Rs. 31.25

Selling Price of 1 toy = Rs.33

Profit = 33 - 31.25 = Rs. 1.75

Profit % = 1.75 / 31.25 \* 100 = 5.6%

**Note:**

* Use methods to modularize the program coded earlier for this problem statement.
* Create a method calculateProfit() with the below mentioned signature.

public float calculateProfit(int dozenCount, int pricePerDozen, int sellPrice)

* Invoke this method from the main method.

I**nput Format:**

Input consists of 3 integers – x, y and z.

x - Number of dozens purchased.

y - Cost per dozen.

z - Selling price per item.

**Output Format:**

Refer Sample Input and Output for formatting details. The profit percentage needs to be printed correct to 2 decimal places.

**Sample Input and Output:**

Enter the number of dozens of toys purchased

20

Enter the price per dozen

375

Enter the selling price of 1 toy

33

Sam's profit percentage is 5.60 percent