

Department of Computer Science

420-101-VA Programming 1

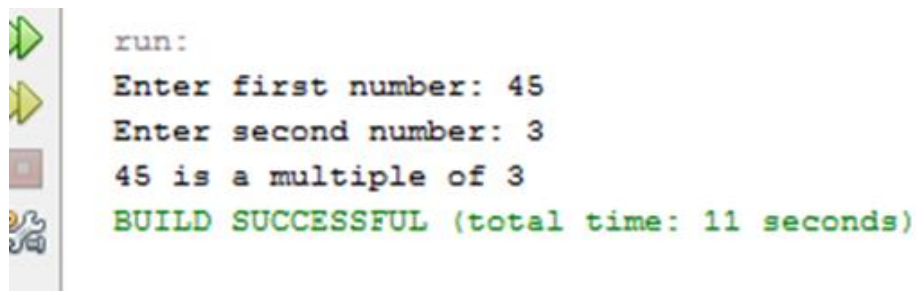
Teacher: Nagat Drawel

Week 2 part 1: Scanner Class and printf()

Requirement:

1. **Keep your code clean** (indent, right spacing, appropriate identifier, camel case). Each part that is not clean will get -2 paneity.
 2. Add appropriate comments if it is necessary.
 3. Please demonstrate your working programs to your teacher. **Failing to explain your own code will be heavily panelized.**
 4. The lab must be submitted on Omnivox (Lea) before the end of the class.
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1. Create a project **Multiple** that reads two integers, determines whether the first is a multiple of the second and prints the result.

[Hint: Use the remainder operator.]



```
run:
Enter first number: 45
Enter second number: 3
45 is a multiple of 3
BUILD SUCCESSFUL (total time: 11 seconds)
```

2. Create a project **PriceCalculator** to ask the user to input an original price of an item, and then ask the user to input a discount ratio (e.g.: 5 for 5% off). Then calculate the 5% federal tax and 9.975% based on the discounted price, and the last price of the item. All results must contain two decimal digits.

```

run:
Please enter the item price: 19.99
Please enter the discount ratio (5 for 5%): 5

Original Price    : 19.99
Discount ratio    : 5.00%
Price Before Tax  : 18.99
-----
Federal Tax       : 0.95
Provincial Tax    : 1.85
Final Price       : 21.79
BUILD SUCCESSFUL (total time: 0 seconds)

```

3. Create a program called BalanceCalculator that interacts with the user to gather information about their financial investment. The program should prompt the user to input the following details:
 - Initial balance in the account.
 - Annual interest rate offered by the bank.
 - Duration in years for which the money will be invested.

Based on the information provided, the BalanceCalculator program will perform calculations to determine the projected new balance after the specified investment period. The calculated balance will account for compound interest.

```

run:
Please enter the initial balance: $15000
Please enter the annual interest rate (2 for 2%): 2.3
Please enter the number of years the client wants to save the money in the bank: 5

Initial Balance    : 15000.00
Annual Interest Rate : 2.30%
Saving Years       : 5
-----
Balance After 5 Years : 16806.20
BUILD SUCCESSFUL (total time: 0 seconds)

```

4. Kathryn bought 600 shares of stock at a price of \$21.77 per share. She must pay her stockbroker a 2 percent commission for the transaction. Write a program that calculates and displays the following:
- The amount paid for the stock alone (without the commission)
 - The amount of the commission
 - The total amount paid (for the stock plus the commission)