

REBOOT ACADEMY

“Learn Programming” PYTHON Assignment Level 1

Create Following Program to enhance your knowledge on Python.

1. Write a program to calculate the sale price of an item after the discount is subtracted.
 - a. Ask price from user as input.
 - b. Give 20 % discount and then display discounted price.

2. Write a program that calculates the total amount of a meal purchased at a restaurant. The program should ask the user to enter the charge for the food, and then calculate the amount of a 18 percent tip and 7 percent sales tax. Display each of these amounts and the total.

3. A cookie recipe calls for the following ingredients:
 - 1.5 cups of sugar
 - 1 cup of butter
 - 2.75 cups of flourThe recipe produces 48 cookies with this amount of the ingredients. Write a program that asks the user how many cookies he or she wants to make, and then displays the number of cups of each ingredient needed for the specified number of cookies.

4. Stock Transaction Program
Last month Joe purchased some stock in Acme Software, Inc. Here are the details of the purchase:
 - The number of shares that Joe purchased was 2,000.
 - When Joe purchased the stock, he paid \$40.00 per share.
 - Joe paid his stockbroker a commission that amounted to 3 percent of the amount he paid for the stock.Two weeks later Joe sold the stock. Here are the details of the sale:
 - The number of shares that Joe sold was 2,000.
 - He sold the stock for \$42.75 per share.

- He paid his stockbroker another commission that amounted to 3 percent of the amount he received for the stock.

Write a program that displays the following information:

- The amount of money Joe paid for the stock.
- The amount of commission Joe paid his broker when he bought the stock.
- The amount that Joe sold the stock for.
- The amount of commission Joe paid his broker when he sold the stock.
- Display the amount of money that Joe had left when he sold the stock and paid his broker (both times). If this amount is positive, then Joe made a profit. If the amount is negative, then Joe lost money.

5. A regular polygon has **n** number of sides. Each side has length **s**.

The area of a regular polygon is:

$$(0.25*n*s^2)/(\tan(\pi/n))$$

The perimeter of a polygon is: **length of the boundary of the polygon**

Write a function called polysum that takes 2 arguments, **n** and **s**.

This function should sum the **area and square of the perimeter** of the regular polygon. The function returns the sum, rounded to 4 decimal places.

6. Time Calculator

Write a program that asks the user to enter a number of seconds and works as follows:

- There are 60 seconds in a minute. If the number of seconds entered by the user is greater than or equal to 60, the program should display the number of minutes in that many seconds.
- There are 3,600 seconds in an hour. If the number of seconds entered by the user is greater than or equal to 3,600, the program should display the number of hours in that many seconds.
- There are 86,400 seconds in a day. If the number of seconds entered by the user is greater than or equal to 86,400, the program should display the number of days in that many seconds.

7. display the following stair-step pattern:

```
#
#
#
#
#
#
```