# Module 6.6 Function Examples: Coding Questions with Hints

## Question 1: A software company needs a function to calculate the total cost of a project based on the hourly rate and the total hours worked. Write this function.

Hint: Use two parameters for the hourly rate and hours worked, and return the product of the two.

## Question 2: An online store requires a function to apply a discount to a price. The function should take the original price and the discount percentage.

Hint: Calculate the discount amount and subtract it from the original price.

## Question 3: A science lab needs a function to convert temperatures from Celsius to Fahrenheit.

Hint: The formula for the conversion is `(Celsius \* 9/5) + 32`. Use it in your function.

## Question 4: An automobile company wants a function to calculate fuel efficiency. The function should accept miles driven and gallons used.

Hint: Fuel efficiency is measured in miles per gallon. Return the division of miles by gallons.

## Question 5: A game development company needs a function that generates a character's stats based on a given class (Warrior, Mage, etc.).

Hint: Use if-elif-else statements to assign different stats based on the character class.

## Question 6: A finance firm requires a function to calculate compound interest. The function should accept the principal amount, rate of interest, and time in years.

Hint: Use the formula `P(1 + R/100)^T` where P is principal, R is rate, and T is time.

## Question 7: A cloud service provider needs a function to calculate the cost of storage based on the amount of data stored (in GBs) and the duration (in months).

Hint: The cost could depend on the tier of storage. Implement different rates for different tiers.

## Question 8: A publishing company wants a function to count the number of words in a manuscript.

Hint: Split the text into words and count them. Consider edge cases like punctuation.

## Question 9: An environmental organization needs a function to calculate carbon footprint reduction from planting trees. Each tree absorbs a certain amount of CO2 per year.

Hint: Multiply the number of trees by the absorption rate per tree and the number of years.

## Question 10: A fitness app requires a function to calculate calories burned based on the type of exercise, its duration, and the user's weight.

Hint: Define different calorie burn rates for different exercises and use them in your calculation.