

Session Advanced Functions – Create IPO Chart and code for each problem below.

1. The input consists of quantity, price and discount rate. Use a function to compute the discount amount and discounted price. Then display these values in main along with the quantity and price. (The function should return both discount amount and discounted price).

input	process	output
qty	While not eof Compdiscamount Input = total, discontrate Return discountamount Compdiscountrate Input = disccountamount, total Return discountprice Total = qty * price Discountamount = (discontrate/100) * total	Qty of obj
price		Price of obj
	Discountprice = (total = discountamount)	
discontrate		Discontrate obj
		Display Discount Amount Display Discounted Price

2. Enter the student's last name and 3 exam scores. Use a function to compute the average and total points. This functions should return both total points and exam score. Display student last name, total points and average exam score.

input	process	output
test1	Def compavgscore Input=(test1, test2, test3) Avgscore = (test1 + test2+ test3) / 3 Return avgscore	

	Comptotalscore(test1, test2, test3) Totalscore = (test1 + test2 + test3) Return totalscore	
Test2 test3	Avgscore = compavgscore(test1, test2, test3) Totalscore = comptotalscore(test1, test2, test3)	
		Display averagescore
		Display totalscore

3. Produce a sales report. Input salesperson last name and sales. Write a function that compute commission which is 10% for sales over \$100, 000 and 5% for sales at or under \$100,000. The function should also computer next year's target which is 5% of the sales. This function should return both commission and next year's target. Display salesperson name, commission and next year's target.

input	process	output
lastname	Compcommission Input = (sales, salesrate) Commission = (sales* salesrate)	lastname
sales	If sales > 100000: Salesrate = 0.10 Else: Salesrate = .05 Salesgoal = .95 * sales	salesrate Next year goal
		Display lastname Display commision

		Display salesgoal
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4. Enter bowler last name, 3 game scores and handicap. Write a function to compute average score and average score with handicap. Back in main, display last name, average score and average score with handicap. \

input	process	output
lastname	Compavgscore Input = (score1, score2, score3): Avgscore = (score1 + score2 + score3) / 3 Return avgscore Comphandicap Input=(score1 + score2 + score3): Handicapscore = avgscore + handicap Return handicap score Handicap	lastname
Handicap score1 score2 score3	Avgscore = compavgscore(score1, score2, score3) Handicapscore = comphandicap(score1 , score2, score 3)	Handicap value
		Display averagescore Display handicap

5. Allow the user to enter quantity of an item and unit price. Write a function to compute total (qty * unit price) and tax (7% of total). Demonstrate your knowledge of global variables by making total and tax global in scope. Display total and tax in main.

input	process	output
Qty	Qty = int(input("Enter quantity: "))	Qty of item

Price	Price = int(input("Enter price: "))	Price of item
Tax	Def comptotal Input = (qty, price): total = qty * price Return total Tax = .07 Def comptax(total): Tax = total * .07 Return tax Total = comptotal(qty, price) Tax = comptax(total)	
		Display total Display Tax