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).

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| Input | Process | Output |
|  | Def function(rate, price, qty):  Discount = price \* qty - (price \* qty \* rate)  Amount = price \* rate \* qty  Return discount, amount |  |
| rate | Get rate, price, qty  Discount, amount = function(rate, price, qty)  Display qty, price, discount, amount | Qty  Price  Discount  amount |
| price |  |  |
| qty |  |  |

1. 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.

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| Input | Process | Output |
|  | Def favg(e1,e2,e3):  Total = e1 + e2 + e3  Avg = (e1 + e2 + e3)/3  Return total, avg |  |
| e1 | Get name, e1, e2, e3  Total, avg = favg(e1, e2, e3)  Display total, avg | Total  avg |
| e2 |  |  |
| e3 |  |  |

1. 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.

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| Input | Process | Output |
|  | Def commission(sales):  If sales > 100000:  Commission = .10 \* sales  Else:  Commission = .05 \* sales  Target = 1.05 \* sales |  |
| name | Get name, sales  Commission, target = commission(sales)  Display name, commission, target | Name  Commission  target |
| sales |  |  |

1. 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.

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| Input | Process | Output |
|  | Def avg(handi,norm):  Handi\_avg = int(handi)/3  Norm\_avg = int(norm)/3  Return handi\_avg, norm\_avg |  |
| name | Get name, norm, handi  Handi\_avg, norm\_avg = avg(handi, norm)  Display name, handi\_avg, norm\_avg | Name  Handi\_avg  Norm\_avg |
| handi |  |  |
| norm |  |  |

1. 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.

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| Input | Process | Output |
|  | Def total(qty, price):  Global total  Total = qty \* price  Global tax  Tax = .07 \* total |  |
| qty | Get qty, price  Total(qty,price)  Display total, tax | Total  tax |
| price |  |  |