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 fPriceDiscount(quantity,price,discountRate)  discountValue=quantity\*price\*discountRate/100##Percent##  newPrice=quantity\*price-discountValue  return newPrice,discountValue |  |
| Quantity,price,discountRate | Input quantity,price, discountRate  discountedPrice,discount=fPriceDiscount(quantity,price,discountRate)  print discountPrice,discount | discountPrice,discount |
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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.

##”Should return both total points and exam score”,

”Display…total points and average exam score” ,

I assume the first quote is the same as the second quote, where total and average score is displayed##

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| input | process | Output |
|  | Def fExamCalc(exam1,exam2,exam3):  Total=exam1+exam2+exam3  Average=total/3  Return total,average |  |
| Name  Exam1  Exam2  Exam3 | Enter name,exam1,exam2,exam3  totalScore,averageScore=fExamCalc(exam1,exam2,exam3)  print name, totalScore,averageScore | Name, totalScore,averageScore |
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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 fComission(sales)  If sales>100000  Commission=0.1  Else  Commission=0.05  Earned=commission\*sales  Target=sales\*0.05  Return earned,target |  |
| Name,sales | Input name,sales  Earned,target=fComission(sales)  Print name,earned,target | Name,earned,target |
|  |  |  |

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 fScore(score1,score2,score3)  Average=(Score1+score2+score3)/3  Return average  Def fScoreHand(scoreHand1,scoreHand2,scorehand3)  averageHand=(scoreHand1+scoreHand2+scoreHand3)/3  Return averageHand |  |
|  | Reply=“Enter 1 for normal games, enter 2 for normal and handicap, enter 3 for just handicap”  If reply==1  Enter name, score1,score2,score3  Average=fScore(score1,score2,score3)  Print name, average  Elif reply==2  Enter name,score1,score2,score3,scoreHand1,scoreHand2,scorehand3  Average=fScore(score1,score2,score3)  averageHand=fScoreHand(scoreHand1,scoreHand2,scoreHand3)  print name,average,averageHand  elif reply==3  enter name,scoreHand1,scoreHand2,scoreHand3  averageHand=fScoreHand(scoreHand1,scoreHand2,scorehand3)  print name, averageHand | Name,average  Name,average,  averageHand  name,averageHand |
|  | ##I was unsure how you wanted me to display the handicap, so I made the if statements for the choice of 3 normal scores, 3 handicaped scores or 6 scores with 3 each.## |  |

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.

|  |  |  |
| --- | --- | --- |
| input | process | Output |
|  | Def fCalc(quantity,price)  Total=quantity\*price  Global taxRate  TaxRate=0.07  Return total |  |
|  | Def fMain()  Enter quantity,price  Total=fCalc(quantity,price)  Tax=total\*taxRate  Print total,tax  fMain() | Total,tax |
|  | ##I displayed the use of ‘global’ variable by mentioning it in another function, and using it in ‘main’. The ‘main’ function displayed both total and tax. Assignment too short to return two values and program would run the same even without ‘main’ function in this problem.## |  |