Assignment 3

Section(A): Discounts and Pricing

Problem(1): Check Discount Eligibility

Write a program to check if a customer is eligible for a discount. If the total purchase is more than $100, apply a 10% discount and display the final price. Otherwise, display the total price as it is.

In [8]:
```
tp = float(input("Enter the amount of total purchase in ($):"))

if tp>100:
    dp = (10/100)*tp
    print("Discount Price:",dp)
    print("Final Price:",tp-dp)
else:
    print("Final Price:",tp)
    print("Discount Price:",0)
```

```
Discount Price: 30.0
Final Price: 270.0
```

Problem(2): Calculate Bulk Discount

If a customer buys more than 5 items, apply a 15% discount on the total price. Otherwise, no discount is applied. Display the total price.

In [1]:
```
ti = float(input("Enter the number of total items:"))
tp = float(input("Enter the amount of total purchase in ($):"))

if ti>5:
    dp = (15/100)*tp
    print("Discount Price:",dp)
    print("Final Price:",tp-dp)
else:
    print("Final Price:",tp)
    print("Discount Price:",0)
```

```
Discount Price: 60.0
Final Price: 340.0
```

Problem(3): Membership Discount

Check if the customer is a member (is_member = True). Members get a 20% discount; non-members get a 5% discount. Calculate and print the discounted price.

In [10]:
```
name_list = ['ali','ibrar','usman','azeem','majid','basit','kamran']

client = input("Enter the customer name:").lower()
tp = float(input("Enter the amount of total purchase in ($):"))

if client in name_list:
    dp = (20/100)*tp
    print("Discount Price:",dp)
    print("Final Price:",tp-dp)
else:
    dp = (5/100)*tp
    print("Discount Price:",dp)
    print("Final Price:",tp-dp)
```

```
Discount Price: 100.0
Final Price: 400.0
```

Problem(4): Seasonal Sale

If today is a holiday (is_holiday = True), apply a 25% discount; otherwise, apply a 10% discount. Calculate the price after discount.

In [21]:
```
dn = input("Enter the day name:").lower()
tp = float(input("Enter the amount of total purchase in ($):"))


if dn in ["sunday" , "saturday"]:
    dp = (25/100)*tp
    print("Discount Price:",dp)
    print("Final Price:",tp-dp)
else:
    dp = (10/100)*tp
    print("Discount Price:",dp)
    print("Final Price:",tp-dp)
```

```
Discount Price: 50.0
Final Price: 450.0
```

Problem(5): Buy-One-Get-One-Free

If a customer buys an even number of items, they get half of them for free. Otherwise, they pay for all. Calculate the number of items the customer has to pay for.

In [26]:
```
ti = float(input("Enter the number of total items:"))

if ti%2 == 0:
    print("The Customer Pay For:",ti/2)
else:
    print("The Customer Pay For:",ti)
```

```
The Customer Pay For: 6.0
```

Section(B): Tax Calculations

Problem(6): Sales Tax

If the price of an item is greater than $500, apply a luxury tax of 15%. Otherwise, apply a standard tax of 8%. Display the total price after tax.

In [34]:
```
tp = float(input("Enter the amount of total purchase in ($):"))

if tp>500:
    dp = (15/100)*tp
    print("Tax Price:",dp)
    print("Final Price:",tp+dp)
else:
    dp = (8/100)*tp
    print("Tax Price:",dp)
    print("Final Price:",tp+dp)
```

```
Tax Price: 105.0
Final Price: 805.0
```

Problem(7): Income Tax

If a person's annual income is above $50,000, they pay 20% tax. Otherwise, they pay 10%. Calculate and display the tax amount.

In [35]:
```
ti = float(input("Enter the amount of annual income in ($):"))

if ti>50000:
    tp = (20/100)*ti
    print("Tax Amount:",tp)
    print("After Tax Income Amount:",ti+tp)
else:
    tp = (10/100)*ti
    print("Tax Amount:",tp)
    print("After Tax Income Amount:",ti+tp)
```

```
Tax Amount: 12000.0
After Tax Income Amount: 72000.0
```

Problem(8): Tax Bracket

Write a program to categorize a person into tax brackets: - Income < $30,000$:" $LowTax$ " $-$30,000 ≤ Income < $100,000$:" $MediumTax$ " $-Income \geq$100,000: "High Tax"

In [51]:
```
ti = float(input("Enter the amount of income in ($):"))

if ti<30000:
    print("This person pay Low Tax")
elif ti >= 100000:
    print("This person pay High Tax")
elif 30000 <= ti <100000:
    print("This person pay Medium Tax")
```

```
This person pay High Tax
```

Problem(9): VAT Calculation

If the item is marked as essential (is_essential = True), apply a VAT of 5%. Otherwise, apply a VAT of 12%. Display the final price.

In [53]:
```
ip = float(input("Enter the amount of an item in ($):"))
need = input("Item Essential Yes/Not:").lower()

if need == 'yes':
    dp = (5/100)*ip
    print("Vat Amount:",dp)
    print("Final Price:",ip+dp)
else:
    dp = (12/100)*ip
    print("Vat Amount:",dp)
    print("Final Price:",ip+dp)
```

```
Vat Amount: 20.0
Final Price: 420.0
```

Problem(10): Tax-Free Day

If today is a tax-free day (tax_free = True), display the original price. Otherwise, add a 7% tax.

In [54]:
```
ip = float(input("Enter the amount of an item in ($):"))
need = input("Is Today is tax-free day Yes/Not:").lower()

if need == 'yes':
    print("Final Price:",ip)
else:
    dp = (7/100)*ip
    print("Vat Amount:",dp)
    print("Final Price:",ip+dp)
```

```
Final Price: 700.0
```

Section(C): Shopping and Billing

Problem(11): Free Shipping

If the total purchase amount is more than $50, offer free shipping; otherwise, charge $5 for shipping. Display the total amount including shipping.

In [56]:
```
pa = float(input("Enter the purchase amount in ($):"))

if pa > 50:
    print("Shipping is free!")
else:
    print("Total Amount:",5+pa)
```

```
Total Amount: 39.0
```

Problem(12): Discount Code

If a customer enters the correct discount code (DISCOUNT10), apply a 10% discount. Otherwise, charge the full amount.

In [58]:
```
dc = input("Enter the discount code:").lower()
pa = float(input("Enter the purchase amount in ($):"))

if dc=="discount10":
    dca = (10/100)*pa
    print("Charge Amount After Discount:",pa-dca)
else:
    print("Charge Amount:",pa)
```

```
Charge Amount After Discount: 360.0
```

Problem(13): Tiered Discounts

Apply discounts based on the total price: - $0–50: No discount. - $50–100: 10% discount. - Over $100: 20% discount.

In [62]:
```
ti = float(input("Enter the amount in ($):"))

if ti<50:
    print("No Discount!")
elif 50 <= ti <=100:
    dca = (10/100)*ti
    print("Discount 10%:",dca)
    print("Charge Amount After Discount:",ti-dca)
else:
    dca = (20/100)*ti
    print("Discount 20%:",dca)
    print("Charge Amount After Discount:",ti-dca)
```

```
Discount 20%: 100.0
Charge Amount After Discount: 400.0
```

Problem(14): Minimum Purchase Requirement

If the total amount is less than $20, displayamessage :" Minimumpurchaseof 20$ is required." Otherwise, display the total amount.

In [65]:
```
ti = float(input("Enter the amount in ($):"))

if ti<20:
    print("Minimum purchase of $20 is required.")
else:
    print("Total Amount:",ti)
```

```
Minimum purchase of $20 is required.
```

Problem(15): Loyalty Points

If a customer is a loyal member (is_loyal = True), they earn double loyalty points for their purchase. Otherwise, they earn standard points.

In [68]:
```
lo = input("Is person is loyal Yes/Not:").lower()

if lo=="yes":
    print("The person earn the double loyalty points on their purchase!")
else:
    print("The person earn standard points!")
```

```
The person earn the double loyalty points on their purchase!
```

Section(D): Travel and Tickets

Problem(16): Travel Discount

If a person is traveling more than 500 miles, offer a 20% discount on ticket price. Otherwise, charge the full amount.

In [71]:
```
tp = float(input("Enter the ticket amount:"))
pt = float(input("How many person is travelling in (miles):"))

if pt>500:
    dp = (20/100)*tp
    print("After Discount On Ticket 20%:",tp-dp)
else:
    print("Charge The Full Amount For Ticket:",tp)
```

```
After Discount On Ticket 20%: 800.0
```

Problem(17): Child or Senior Discount

If a passenger is under 12 or over 60 years old, apply a 15% discount on the ticket price. Otherwise, charge the full price.

In [14]:
```
tp = float(input("Enter the ticket price:"))
age = float(input("Enter your age:"))

if age >60 or age <12:
    discount = 0.15 * tp
    print("Discount:", discount)
    print("Ticket Price After Discount:",tp-discount)
else:
    print("No Discount!")
    print("Price is:",tp)
```

```
Discount: 7500.0
Ticket Price After Discount: 42500.0
```

Problem(18): Ticket Type Pricing

If the ticket is for a weekend (is_weekend = True), add a 10% surcharge. Otherwise, charge the standard price.

In [19]:
```
tp = float(input("Enter the ticket price:"))
age = input("Is ticket price for a weekend YES/NOT:")

if age == "yes":
    surcharge = 0.10 * tp
    print("Surcharge:", surcharge)
    print("Ticket Price After Surcharge:",tp+surcharge)
else:
    print("No Surcharge!")
    print("Price is:",tp)
```

```
Surcharge: 560.0
Ticket Price After Surcharge: 6160.0
```

Problem(19): Baggage Fee

If the total baggage weight is over 20kg, charge $10 per extra kilogram. Otherwise, no extra fee.

In [21]:
```
bwp = float(input("Enter baggage price par KG in ($):"))
bw = float(input("What is the weight of baggage in (KG):"))

if bw > 20:
    above_20kg_fee = bw * 10
    original_price = bw * bwp
    print("Extra Charge:", above_20kg_fee)
    print("Total Price:",above_20kg_fee + original_price)
else:
    original_price = bw * bwp
    print("No Extra Charge!")
    print("Total Price:",original_price)
```

```
Extra Charge: 300.0
Total Price: 3300.0
```

Problem(20): Early Bird Discount

If a ticket is booked more than 30 days in advance, apply a 10% discount. Otherwise, charge the full price.

In [25]:
```
tp = float(input("Enter the ticket price in ($):"))
bd = float(input("How many days ago ticket booked:"))

if bd > 30:
    discount = 0.10 * tp
    print("Discount:", discount)
    print("Total Price:",tp-discount)
else:
    print("No Discount!")
    print("Total Price:",tp)
```

```
Discount: 500.0
Total Price: 4500.0
```

Section(E): Grades and Performance

Problem(21): Pass or Fail

If a student scores 40 or more, print "Pass". Otherwise, print "Fail".

In [29]:
```
marks = float(input("Enter the marks:"))

if marks >=40 :
    print("Pass")
else:
    print("Fail!!!")
```

```
Pass
```

Problem(22): Grade Assignment

Based on a student's score, assign grades: - 90 and above: "A" - 75–89: "B" - 50–74: "C" - Below 50: "F"

In [9]:
```
marks = float(input("Enter the marks:"))

if 90 <= marks <= 100:
    print("Grade:","A")
elif 75 <= marks <= 89:
    print("Grade:","B")
elif 50 <= marks <= 74:
    print("Grade:","C")
elif marks < 50 :
    print("Grade:","F")
else:
    print("Invalid Input!")
```

```
Grade: A
```

Problem(23): Bonus Marks

If a student completes all assignments, add 5 bonus marks to their score. Otherwise, no bonus marks.

In [10]:
```
marks_ob = float(input("Enter the marks:"))
chek = input("Is Complete the assignment YES/NOT:").lower()

if chek == "yes":
    print("Total Marks:",marks_ob+5)
else:
    print("No Grace Marks!")
    print("Total Marks:",marks_ob)
```

```
No Grace Marks!
Total Marks: 56.0
```

Problem(24): Attendance Eligibility

If a student's attendance is 75% or more, they are eligible to take the exam. Otherwise, they are not.

In [12]:
```
st_atten = float(input("What is the attendance of student in (%):"))

if st_atten >= 75:
    print("Eligible For Exam")
else:
    print("Sorry! You Are Not Eligible.")
```

```
Eligible For Exam
```

Problem(25): Scholarship Eligibility

If a student's grade is "A" and their annual family income is below $30,000, they are eligible for a scholarship. Otherwise, they are not.

In [14]:
```
sg = input("What is the student grade:").lower()
if sg == "a":
    fi = float(input("what is the family income in ($):"))
    if fi <= 30000:
        print("Congrutulations! You are eleigible for this scholarship.")
    else:
        print("Sorry! Your Family Income is good.")
else:
    print("Sorry! Your Grade is low.")
```

```
Congrutulations! You are eleigible for this scholarship.
```

In [ ]:
```

```