Programs(nested if)

"""1. Grading System

Write a Python program that takes a student's marks as input.

If marks ≥ 90 → print "Grade A"

Else if marks ≥ 75 → print "Grade B"

Else if marks ≥ 50 → print "Grade C"

Else → print Fail"""

```
marks = float(input("Enter the marks: "))
if(marks>=50):
    if(marks>=75):
        if(marks>=90):
            print("grade a")
        else:
            print("grade b")
    else:
        print("grade c")
else:
    print("fail")
```

output:

Enter the marks: 69

grade c

2.

"""2. ATM Withdrawal Check

Ask the user for:

Account balance

Amount to withdraw

Check using nested if:

If balance ≥ withdrawal amount → further check if withdrawal amount is a multiple of 100

If yes → "Transaction Successful"

Else → "Enter amount in multiples of 100"

Else → "Insufficient Balance" """

program:

```
balence=10000
amount=float(input("enter the amount:"))
if(balence>amount):
   if(amount%100==0):
      available_balence=balence-amount
      print("entered amount is multiple of hundred and your transaction is succesfull:",amount)
      print(available_balence)
   else:
      print("amount is not multiple of hundred")
else:
   print("insufficient balence")
```

output:

```
enter the amount:900
entered amount is multiple of hundred and your transaction is succesfull: 900.0
9100.0
```

3.

```
"""3. Triangle Type Checker
```

Take three sides of a triangle as input.

First check if it forms a valid triangle (a+b > c, b+c > a, a+c > b).

If valid, then check:

If all sides are equal → "Equilateral"

Else if two sides are equal → "Isosceles"

Else → "Scalene"

Else → "Not a Triangle" """

Program:

```
a=float(input("enter the side of traingle:"))
b=float(input("enter the side of traingle:"))
c=float(input("enter the side of traingle:"))
if a + b > c and b + c > a and a + c > b:
    if a == b == c:
        print("Equilateral triangle")
    else:
        if a == b or b == c or a == c:
            print("Isosceles triangle")
        else:
            print("Scalene triangle")
else:
    print("Not a triangle")
```

output:

```
enter the side of traingle:99
enter the side of traingle:9
enter the side of traingle:9
```

Not a triangle

4.

"""4. Voting Eligibility

Ask the user for age and citizenship (Indian/Other).

If age ≥ 18

If citizenship is Indian → "Eligible to Vote"

Else → "Not Eligible (Non-Citizen)"

Else → "Not Eligible (Underage)" """

Program:

```
age=float(input("enter the age:"))
country=str(input("enter the country:"))
region=country.lower()
if age >= 18:
   if region == "india":
      print("You are eligible for voting")
   else:
      print("You are not a citizen of India")
else:
   if region == "india":
      print("You are underage")
   else:
      print("Underage and not a citizen of India")
```

output:

```
enter the age:20
enter the country:india
You are eligible for voting
```

5.

Discount Calculator

Take the total bill amount as input.

If bill ≥ 5000

If bill ≥ 10000 → give 20% discount

Else → give 10% discount

Else

If bill ≥ 2000 → give 5% discount

Else → "No Discount" """

Program:

```
ba=float(input("enter the bill amount:"))
if ba >= 2000:
   if ba < 5000:
      print("You got 5% discount")
      discount = ba * 0.05
      print("Discount:", discount)
      final_bill = ba - discount
      print("Final bill:", final_bill)
   else:
      if ba < 10000:
         print("You got 10% discount")
         discount = ba * 0.10
         print("Discount:", discount)
         final_bill = ba - discount
         print("Final bill:", final_bill)
      else:
```

```
        print("You got 20% discount")
        discount = ba * 0.20
        print("Discount:", discount)
        final_bill = ba - discount
        print("Final bill:", final_bill)
else:
    print("No discount")
    final_bill = ba
    print("Final bill:", final_bill)
```

output:

```
enter the bill amount:979887
You got 20% discount
Discount: 195977.40000000002
Final bill: 783909.6
```
