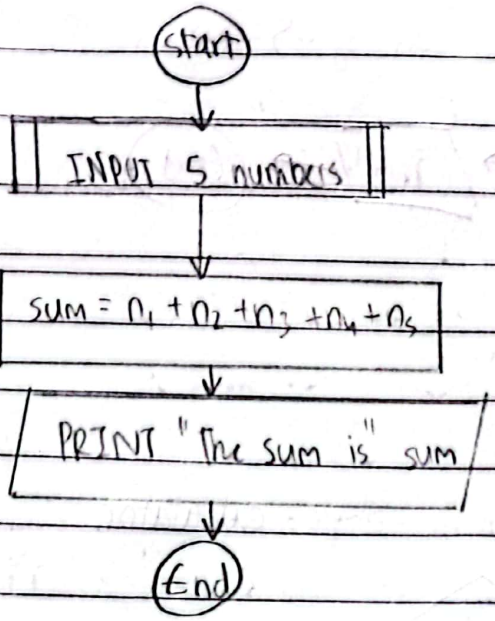
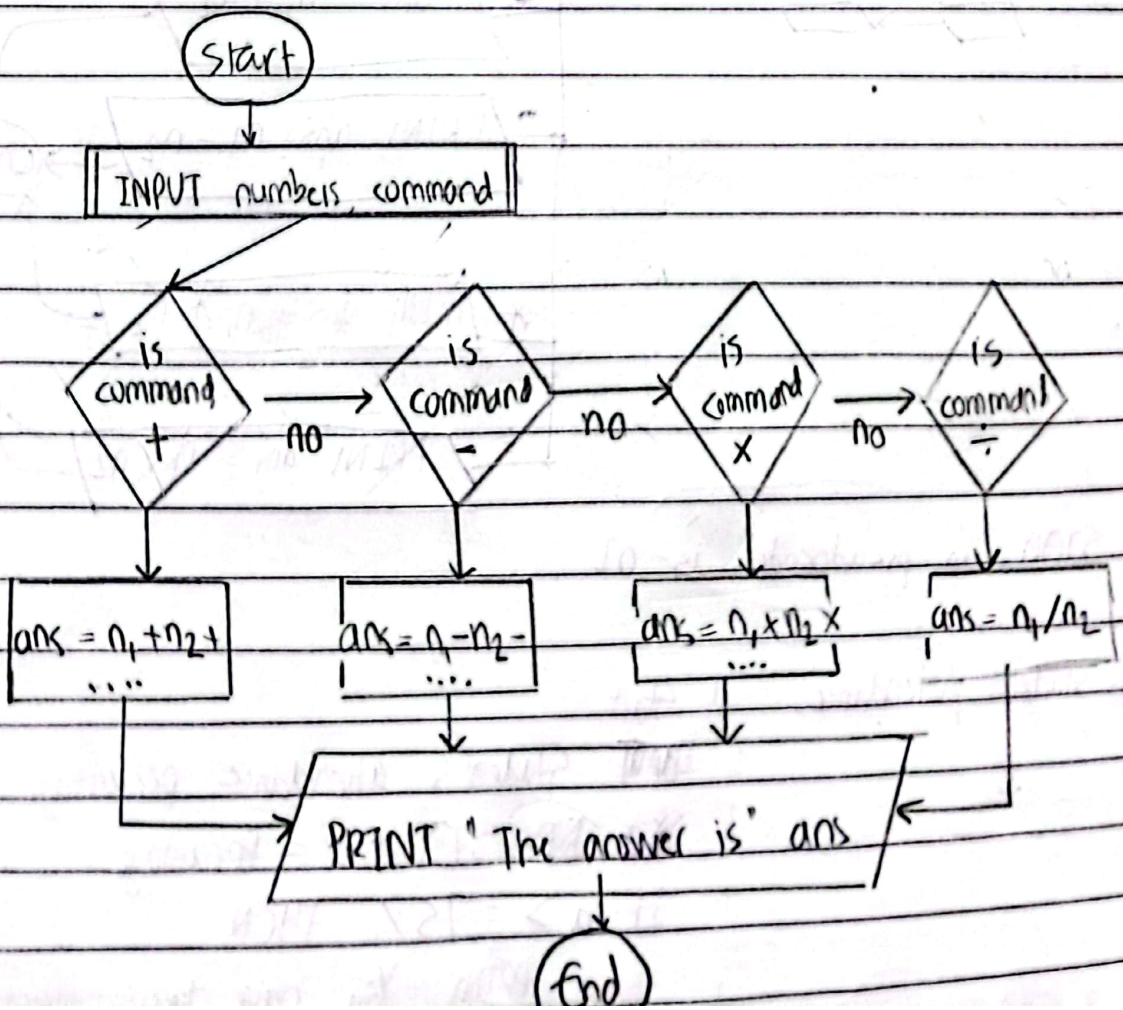
pE lab 2 Mohammad Usman 3032

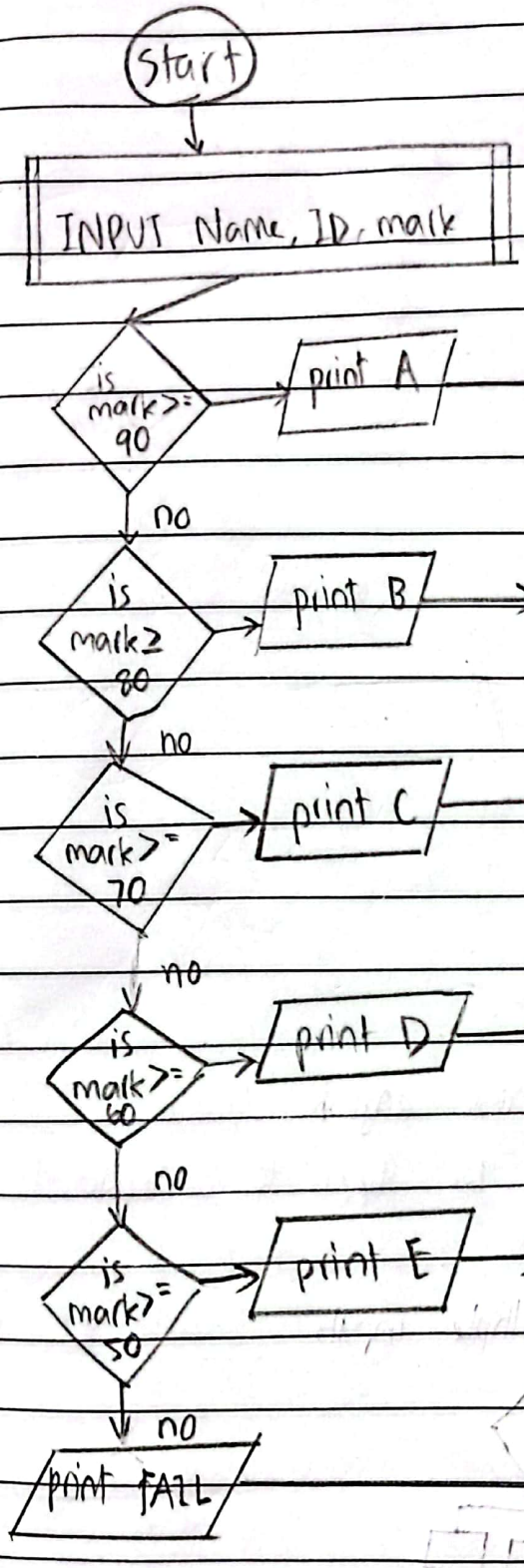
q1) Draw a flowchart to find the sum of 5 numbers



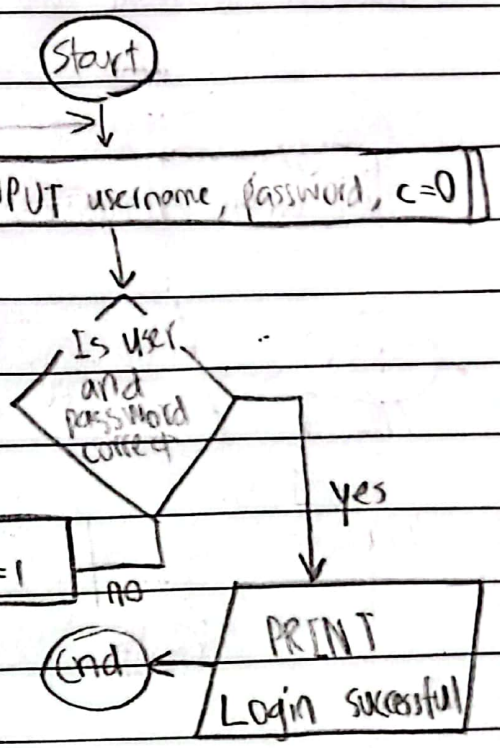
q2) Design a calculator



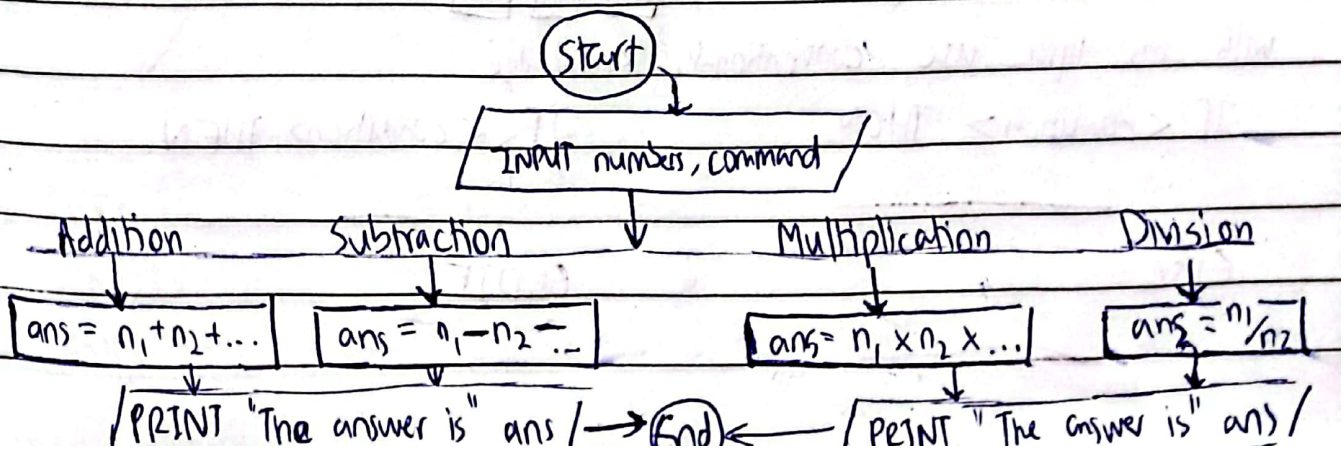
q3) Grade threshold



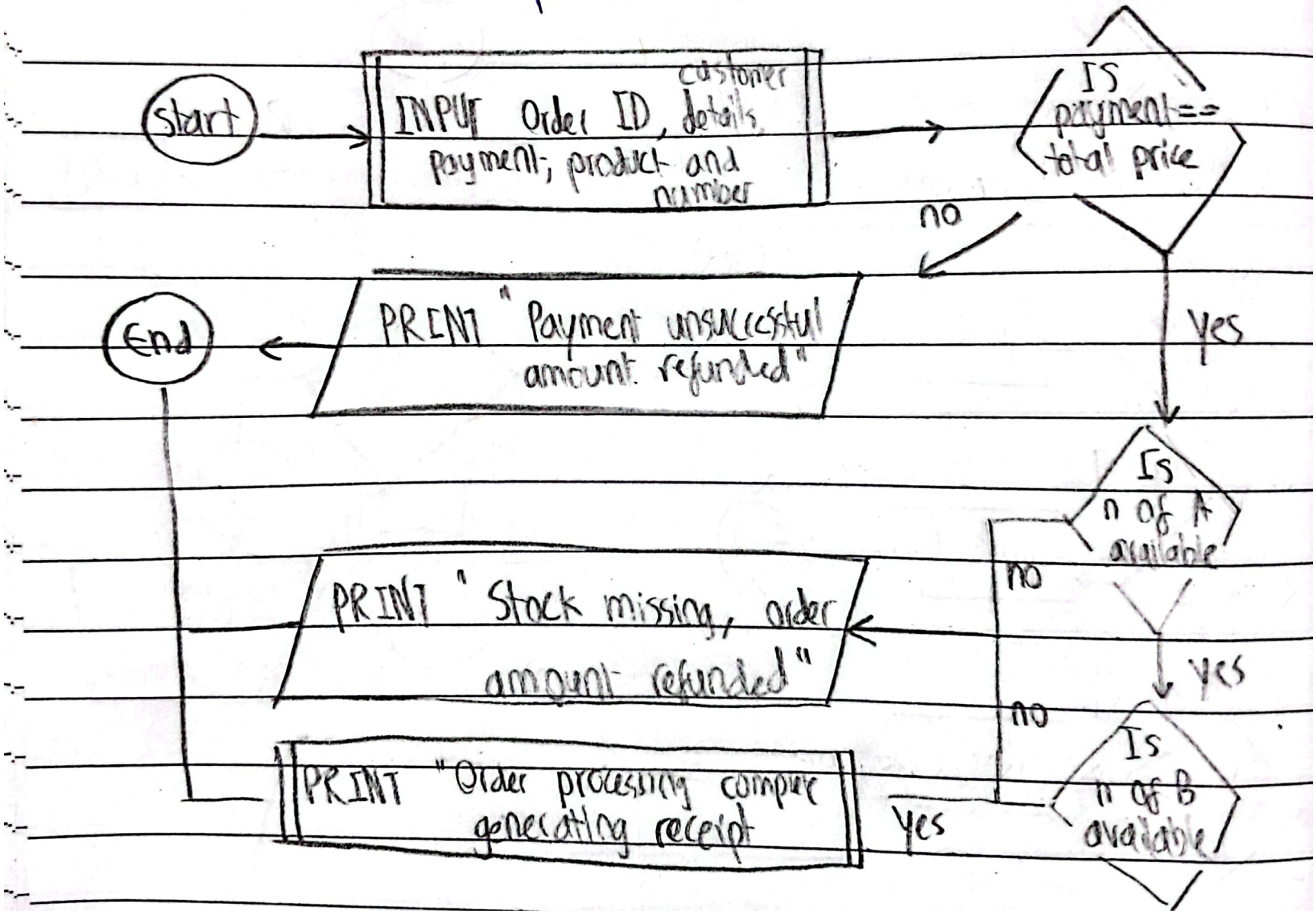
q4) user and pass - login system



Designing a calculator with the case structure (we use it when we have alot of conditions).



45) e-commerce website, system needs to verify payment, check if stock is available and process the order



Pseudocode

q1) find maximum number from three variables

1 START
2 INPUT n1, n2, n3
3 IF n1 > n2 THEN
    IF n1 > n3 THEN
        PRINT "Greatest is" n1
    ELSE
        PRINT "Greatest is" n3
4 ELSEIF n2 > n3
        PRINT "Greatest is" n2
    ELSE
        PRINT "Greatest is" n3
END

q2) Parking fee for a vehicle per hour. $5 + 3$/1h

1 START
2 INPUT License plate, time of arrival
3 IF car exits THEN
    hours = (time of exit − time of arrival) / 60
    IF hours <= 1 THEN
        SET amount = $5
    ELSE
        SET amount = $5 + $3 * (hours - 1)
4 PRINT "The parking ticket is" amount
5 ENDIF
6 END

q3) items with a different price, calculate total price and apply discou

```
1  START
2  REPEAT
       INPUT product_ID, price, item_count
       SET sum = price x item_count
       PRINT " Subtotal is" sum
       SET amount += sum
       SET sum = 0
3  UNTIL all items are scanned
4  IF amount >= 100 THEN
       amount = amount - 10
       PRINT " You have gotten $10 discount." amount
   ELSE
       PRINT " Your bill is" amount
5  END
```

q4) Write pseudocode to find whether a number is even or odd

```
1  START
2  INPUT number
3  IF number / 2 = whole number THEN
       PRINT "The number is even"
   ELSE
       PRINT "The number is odd"
4  END
```

Algorithm

q1) Track student's attendance, if it falls below 75%, then issue a warning.

1 START
2 Input the student's details
3 Ask the user to input attendance (no. of days attended)
4 Set AttPerc to $\frac{\text{(total number of days attended)}}{\text{total no. of days}}$
5 Check if the AttPerc is less than 75% (0.75)
Output "Warning issued" if AttPerc less than 75 and "You are punctual" if not.
6 END

q2) Write an algorithm to calculate the gross pay of an employee

1 START
2 Ask the user to enter the employee details
3 Ask the user TO input the pay_rate 4) Input hours_worked
5 Set GrossPay to (pay_rate x hours_worked)
6 Display the GrossPay and "in" suitable currency
7 END

q3) Design an algorithm for a calculator with all the operators

1 START
2 Ask the user to input the 1st number
3 Ask for the command
4 Ask for the second number
5 Perform the calculation

If the command is addition, add the 2 numbers
If it is subtraction, subtract 2nd no. from the first
If it is multiplication, multiply the 2 together
If it is division, divide the 1st no. with the second
6 Display the answer
7 End

q4) Write an algo to calculate the total bill at a restaurant, if the customer chooses then add a 15% tip.

1 START
2 Ask the user to enter the meals eaten
3 Ask the user to enter the number of meals eaten
4 Multiply the quantity of the meals with their respective prices
5 Set sum to total all the meals
6 Display the sum to the user
7 Ask the user if they would like to leave a tip
- Multiply the sum by 1.15, if yes
- Display the new sum, if yes
8 End

q5) Wile an algo to calculate the grade of students, can be A, B, C

1 START
2 Ask the student to input their ID
3 Ask the student to enter their marks
4 Check if the marks are 50 or above
Set grade to C

5 Check if the marks are 70 and above

Set grade to B

6 Check whether the marks are 90 and above

Set grade to A

7 Display the grade

8 End