**PF LAB ASSIGNMENT-02**

**FLOW CHART**

1. You are working in a logistics company responsible for delivering packages. Design a flowchart to manage the process of receiving, sorting, and delivering packages. Include decision structures for handling fragile items and urgent deliveries

IS PACKAGE IS FRAGILE

RECEIVE A PACKAGE

YES

DEAL WITH FRAGILE PACKAGE

NO

1

SORTING THE PACKAGES

1

NO

YES

FIRST DELIEVER THIS PACKAGES

IS DELIEVRY URGENT

DELIEVER PACKAGES

1. Imagine you are automating the process of a vending machine. Create a flowchart that includes decision points for user input, selecting products, accepting payment, and dispensing the correct item. Include error-handling for invalid inputs and insufficient funds

IF INPUT IS VALID

INPUT PRODUCT

FALSE

FALSE

TRUE

DISPENSE PRODUCT

IF PAYMENTCORRECT

ACCEPTPAYMENT

TRUE

**PSEUDOCODE**

1. Write pseudocode to find the smallest number among three given variables. Implement a Decision - making structure to compare the variables.
2. START
3. // INPUT/OUTPUT
4. INPUT a
5. INPUT b
6. INPUT c
7. // CONDITIONAL STATEMENT
8. IF a<b && a<c THEN
9. PRINT “The smallest number is a”
10. ELSE-IF b<a && b<c
11. PRINT “The smallest number is b”
12. ELSE
13. PRINT “The smallest number is c”
14. END
15. Develop pseudocode for a basic calculator that performs multiplication and division. The pseudocode should prompt the user for two numbers and an operator, then display the result of the operation.
16. START
17. // INPUT/OUTPUT
18. INPUT a
19. INPUT Operator(\*,/)
20. INPUT b
21. // CONDITIONAL STATEMENT
22. IF operator == ‘\*’ THEN
23. PRINT “PRODUCT IS a\*b”
24. ELSE-IF operator == ‘/’ THEN
25. IF b=0 THEN
26. PRINT “Syntax Error”
27. ELSE
28. PRINT “Quotient is a/b”
29. ELSE
30. PRINT “Enter valid operator”
31. END

**ALGORITHM**

1. Write an algorithm to determine whether a number is a prime number. The algorithm should iterate through possible divisors and determine if the number has any divisors other than 1 and itself.
2. Ask user input number
3. Check if divisible by 1 and itself only Then
4. PRINT “It is Prime number”
5. Else PRINT “It is not Prime number”

1. Create an algorithm that asks the user for a day number (1-365) and outputs the corresponding day of the week, assuming that January 1st is a Monday.
2. Ask user input any number between 1-365
3. Take modulo of user input by 7 (number%7)
4. If remainder is 0
5. Print “Sunday”
6. Else-If remainder is 1
7. Print “Monday”
8. Else-If remainder is 2
9. Print “Tuesday”
10. Else-If remainder is 3
11. Print “Wednesday”
12. Else-If remainder is 4
13. Print “Thursday”
14. Else-If remainder is 5
15. Print “Friday”
16. Else
17. Print “Saturday”
18. Develop an algorithm for a program that takes two numbers as input and finds Greatest Common Divisor (GCD) of the two numbers using the Euclidean algorithm.
19. Ask user input a
20. Ask user input b
21. Set remainder as c
22. Take modulo of a by b (c=a % b)
23. If b is non zero
24. Replace the value of a as b and b as c
25. Repeat process until b become zero Then
26. Print GCD as last non zero value of a
27. Else, Print GCD as initial value