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**FLOWCHART PROBLEMS**

**QUESTION 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.

start

Receive the package

Check if package is fragile

**Yes No**

Sort package normally

Sort package carefully

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Check if delivery is urgent

Deliver normally

Deliver urgently

end

**QUESTION 2:**

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.

start

Input item

If item is available

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No

yes

Ask for cash input

Display item is not available

If cash amount valid

Display cash amount not valid

Dispense the item

End

**Pseudocode Questions:**

**Question 1:**

Write pseudocode to find the smallest number among three given variables. Implement a

decision-making structure to compare the variables.

* Start
* Input num1, num2,num3
* If num1 <num2 & num1 <num3
  + Display num1 is smallest
* If num2< num1 & num2< num3
  + Display num2 is smallest
* Else
  + Display num3 is smallest
* end

**Question 2:**

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.

* Start
* Input num1
* Input num2
* Input operator
* If operator = ‘x’
  + Display (num1 \* num2)
* Else if operator = ‘/’
  + Display (num1/num2)
* end

**Algorithm Questions:**

**Question 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.

Input n

Loop i=2, I < n , i =i+1

If remainder of I /n = 0

Display it is not a prime number

If remainder if I / n is not =0

Display it is a prime number

End loop

**Question 2:**

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.

Input day, between 1 and 365

If remainder of day/7 is 1

Display It is Monday

If remainder of day/7 is 2

Display It is Tuesday

If remainder of day/7 is 3

Display It is Wednesday

If remainder of day/7 is 4

Display It is Thursday

If remainder of day/7 is 5

Display It is Friday

If remainder of day/7 is 6

Display It is Saturday

If remainder of day/7 is 0

Display It is Sunday

**Question 3:**

Develop an algorithm for a program that takes two numbers as input and finds the Greatest

Common Divisor (GCD) of the two numbers using the Euclidean algorithm.

Start

Input a,b

While(b is not = 0) [

A=b

B = a%b

]

Display a

End