Name: Minhal Raza

Student ID: 24k-0554

Title: Programming Fundamentals

Lab\_02 Assignment.

**Contents:**

* Flow Chart 1 (Logistic Company)
* Flow Chart 2 (Vending Machine)
* Pseudo Code 1 (Smallest Number)
* Pseudo Code 2 (Subtract two numbers)
* Pseudo Code 3 (Basic Calculator)
* Algorithm 1 (Prime Number)
* Algorithm 2 (day of the week)
* Algorithm 3 (GCD)

Flow Chart 1 (Logistic Company):

Start

Mark as Urgent

Standard Delivery

Prioritize Delivery

NO

Yes

Is delivery Urgent

Is pkg fragile!?

Mark as Fragile

Handle with Care

Standard Handling

Yes

NO

Sort pkg

Receive package

NO

Delivery Success????l?

Yes

End

Mark As Delivered

Return to Sorting Center

Mark for ReDelivery

Deliver package

Load onto Vehical

**Flow Chart 2 (Vending Machine)**

Start

Display “Welcome to The Vending Spot”

User Select a Product

Show All Available Products

Collect Payment From User

Ask for Payment

Show the price

Redirect to Startup page

Load Product Details

Display: Invalid Selection

Yes

NO

Valid product Selected?

Process payment

End

Give the product to User

Display Payment Error Order not proceed

Display “Thank You for the Purchase”

Yes

NO

Payment Successful?

PSEUDO CODE

* [Smallest Number Among three]

Start

Input num1

Input num2

Input num3

Create a variable named “smallnum”

If { num1 < num2 and num1 < num3}

smallnum = num1

else if { num2 < num1 and num2 < num3}

smallnum = num2

else

smallnum = num3

Display (smallnum)

* [Basic Calculator with two Operators [\* and / ] ]

Start

Input num1

Input num2

Input an Operator [ \* or / ]

If operator = \*

Result = num1 \* num2

Else if operator = / {

If num2 is not = 0{

Result = num1/num2

Display result}

Else{ display “division by 0 is not allowed”}

}

Else{ display invalid input}

Algorithm

Algo1 (Prime Number)

Start

Step#1: input n

Step#2: if num =< 1

Display “not a prime number” and Exit.

Step#3: start for loop 🡪 for i from 2 to square root of n (inclusive).

If n is divisible by i (i.e n%i == 0) then 🡪 [Step#4]

Step#4: Display “The number is not a prime number”.

Else 🡪 step#5

Step#5: display “the number is a prime number”

Algo2 (Day of the Week)

Start

Step#1: input dayNumber

Step#2: where 1 >= dayNumber <= 365

Step#3: set weekDay = (dayNumber -1) %7

Step#4:if weekDay = 0

Display “Monday”

Else if weekDay = 1

Display “Tuesday”

Else if weekDay = 2

Display “Wednesday”

Else if weekDay = 3

Display “Thursday”

Else if weekDay = 4

Display “Friday”

Else if weekDay = 5

Display “Saturday”

Else if weekDay = 6

Display “Sunday, Enjoy!”

Algo3 (GCD)

Start

Step#1: Input num1

Step#2: Input num2

Step#3: while (num ≠ 0) do:

Set temporaryVar = num2

num2 = num1%num2

set num1 = temporaryVar

Step#4: Display num1 as GCD