BY: MUDASIR ALI

ROLL NUMBER: 24K-1025

SECTION: K

PROGRAMMING FUNDAMNENTAL (PF) LAB 2 TASKS

Q 1

1.1 ALGORITHIM

- Start
- Show greetings to the customer.
- “Welcome to our restaurant” how may I help you?
- Show menu to the customer.
- Take order from the customer.
- Record the items he has chosen.
- Now check item availability, whether the item he has chosen are available or not.
- If all items that he chosen are not available then,
- Inform the customer for the unavailable items.
- Ask the customer does he needs anything else in place of missing items.
- If the items he has chosen first are available then proceed to the next steps.
- Calculate the total cost, add the price of all the items he has ordered.
- Repeat the order details and the total cost to the customer make sure everything is correct.
- If everything is correct go to the next step if it’s not then again go to the previous steps.

- If everything is ok then go the next step.
- Now give the order to the kitchen staff that the customer has ordered.
- Prepare the order to serve.
- Bring order to the customer.
- Process the payments bill.
- Collect payment from the customer based on total cost.
- Once payment has done, say the customer " say the customer **Thank you** for coming in our restaurant.
- END

1.2 PSEUDOCODE

- Start.
- Show greetings to the customer.
- Display "welcome to our restaurant".
- Display how can I help you.
- Display menu to the to the customer.
- Read order.
- Display please choose your order.
- If the order that customer has chosen is not available, then,
- Display kindly change your order.
- Else if the order that customer has chosen is available, then,
- Calculate the total price the items that the customer ordered.
- Confirm the order
- Ask the customer to confirm if he want to proceed the order.
- If the customer confirms.
- Proceed the payment of the order.
- Get payment from the customer.
- If given payment > required payment then
- Return the remaining payment.
- Remaining payment = given payment – required payment.

- Else if given payment < required payment then
- Get more payment from the customer.
- More payment = given payment – required payment
- Add the more payment into the payment that customer has given already to make it equal to required payment.
- Else if given payment = required payment.
- Display “your payment has been successfully paid.
- Display your order has been placed to your table.
- Display **thank you for your order.**
- End

Q 2

2.1 ALGORITHIM

- Start.
- Show greetings to the customer.
- Please enter your account pin.
- Please enter amount you want to deposit.
- Check for account validity.
- Retrieve account details using “account number”
- If account number does not found.
- Display error message “account number does not exists”.
- Display “please enter your account number again”.
- Repeat till the account number match found.
- If the entered account number match found.
- Display “please enter the amount you want to deposit”.
- If deposit entered amount is > the account balance.
- Display “your entered amount is greater than your account balance”.
- Else if entered amount = 0 then,
- Display “deposit amount must at least 1”.

- Else if entered amount is <= account balance then,
- Proceed deposit.
- Notify the customer that the deposit was successful and provide the new balance.
- Give the deposited amount to the person.
- Update the account balance with the balance.
- End.

2.2 PSEUDOCODE

- Start.
- Show greetings to the customer.
- Display “start process of your deposit transaction”.
- Display “please enter your account pin”
- Verify account details.
- If entered account pin is wrong.
- Output “Retry”
- Repeat until the account information match found.
- If the entered account information match found.
- Display “please enter the amount you want to deposit”.
- If entered deposit amount is > account balance.
- Display “your entered amount for deposit is greater than your account balance, please enter valid amount to deposit.”
- Else if deposit amount <=0,
- Display “invalid deposit amount, it must be positive”.
- Else if entered amount is <= account balance
- Proceed deposit.
- Display “your deposited amount is in process”
- Display “now you can collect your deposited amount.
- Update account balance.
- Save updated account information.
- End.

Q3:

3.1 ALGORITHIM

- Start
- **Input** : Read the three numbers
- Let the three numbers be A,B, C
- Compare the all three numbers
- If A>B and A>C then
- **Output** ‘A’
- Else if B>A and B>C then
- **Output** ‘B’
- Else
- **Output** ‘C’ (since if both of the above two conditions does not satisfy it’s obvious that C is greatest)
- End.

3.2 PSEUDOCODE

- Start
- Print “Enter the first number A”
- Read first number
- Print “Enter the second number B”
- Read second number
- Print “Enter the third number C”
- Read third number
- Display compare the numbers
- If A > B and A > C then
- Print “A is greatest”
- Else if B > A and B > C then
- Print “B is greatest”

- Else print “C is greatest” (it’s obvious if above two conditions does not satisfy then C is greatest)
- End if
- End.

Q 4

ALGORITHIM

- Start
- Declare n
- Print “enter the value of n”
- If numbers ==1
- Display “January”
- Else if numbers ==2
- Display “February”
- Else if number ==3
- Display “March”
- Else if number ==4
- Display “April”
- Else if number ==5
- Display “May”
- Else if number ==6
- Display “June”
- Else if number ==7
- Display “July”
- Else if number ==8
- Display “August”
- Else if number ==9
- Display “September”

- Else if number ==10
- Display “October’
- Else if number ==11
- Display “November’
- Else if number ==12
- Display “December”
- Else
- Display “The month does not exists”
- End.

Q 5

PSEUDOCODE

- Start
- Input two numbers and an operator
- Print “enter the first number”
- Read first number
- Print “enter the second number”
- Read second number
- Print “enter the operator (+ or -)
- Read operator
- Set result to 0
- If operator = ‘+’ then
- Set result to number 1 + number 2
- Else if operator = ‘-‘
- Set result to number 1 – number 2
- Else
- Print “Invalid operator, please enter + or -.”
- End if
- Output the result

- Print “The result is:”
- Print result
- End.

Q 7

ALGORITHIM

- Start
- Declare num1, num2, operator
- Input “Enter the value of num1”
- Input “Enter the value of num2”
- Input “Enter an operator ‘+’ or ‘–‘or ‘*’ or / or ‘%’.”
- If operator is ‘+’ then
- Result = num1 + num2
- Else if operator is ‘-‘ then
- Result = num1 – num2
- Else if operator is ‘*’ then
- Result = num1*num2
- Else if operator is ‘/’ then (If num2 != 0)
- Result = num1 / num2
- Else if operator is ‘/’ then (if num2 == 0)
- Result = Error num2 must be greater than 0
- Else if operator is ‘%’ then
- Result = num1 % num2
- Else
- Print “invalid operator, operator must be ‘+’ ‘-‘ ‘*’ ‘ /’ ‘%’
- End.

Q 9

.GITIGNORE

The '.gitignore' files is used to list the files and folders that we don't want to Git to track or include in our project. In this way the things like temporary files, build files or personal settings are not added to the repository, keeping it clean and organized. You just put a '.gitignore' files in the main directory of your project and list the files and patterns of files you want to ignore all.

EXAMPLE:

- Build artifacts like '*'. Class'
- Configuration files with sensitive data '.vs code', '.idea'

Q 10

DIFFERENCE BETWEEN ALGORITHIM AND PSEUDOCODE

- Definition of an algorithm: An algorithm is a step by step process for solving a problem or achieving a specific task.

  Definition of pseudocode: pseudocode is simplified way of describing a language. Pseudocode looks a bit like programming but it is still in plain English.

DIFFRENCE BETWEEN PSEUDOCODE AND ALGORTHIM

PSEUDOCODE:

1. Pseudocode is a step-wise English like statement to solve a problem.
2. Only English statements is written for any functionality.
3. It’s more detailed than just a basic steps because it includes some programming structures like, loops and conditionals, but it is pretty easy to read.

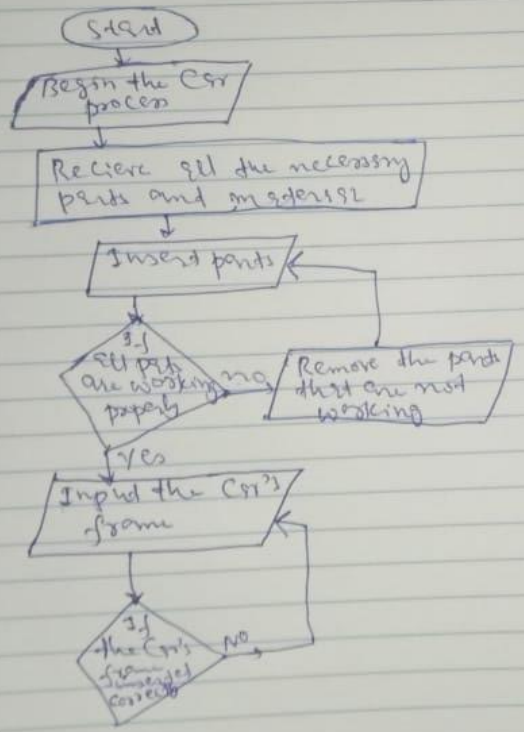
   ALGORITHM:

   1. An algorithm is a graphical representation of solving a problem.
   2. Symbol are used for different actions.
   3. Algorithms are not written in any specific programming language they are more about logic and ideas.

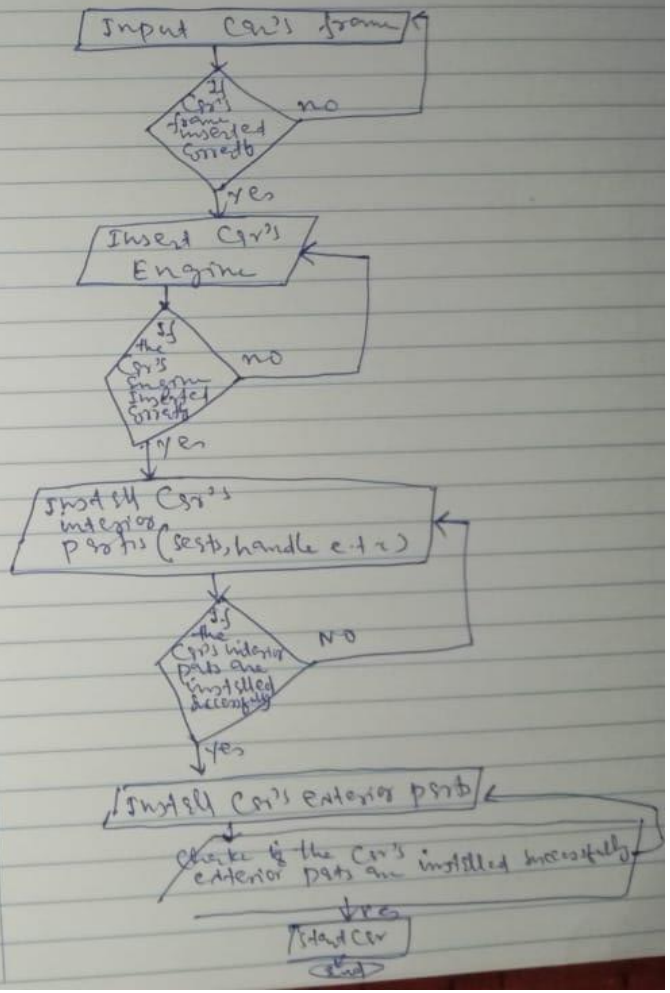
PF LAB QUESTION 6 FLOWCHART

Name : Mudasir Ali
Roll number: 24K-1025
Section: K

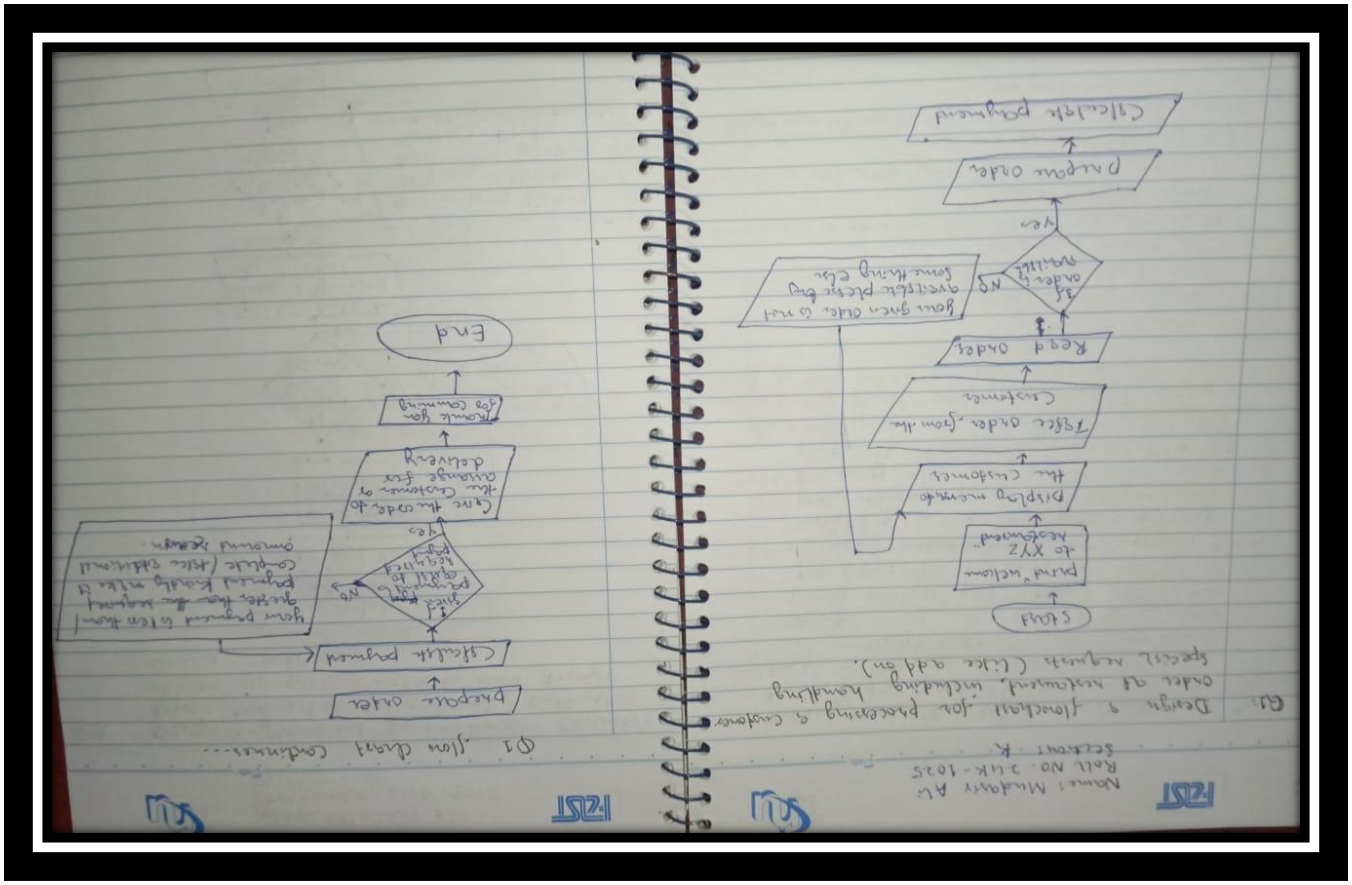
Q6 You are working at Toyota Indus motors and want to assemble a car, Design a flowchart with proper process modules and decision structures to replicate a pipeline production.



Q6 flowchart continues---

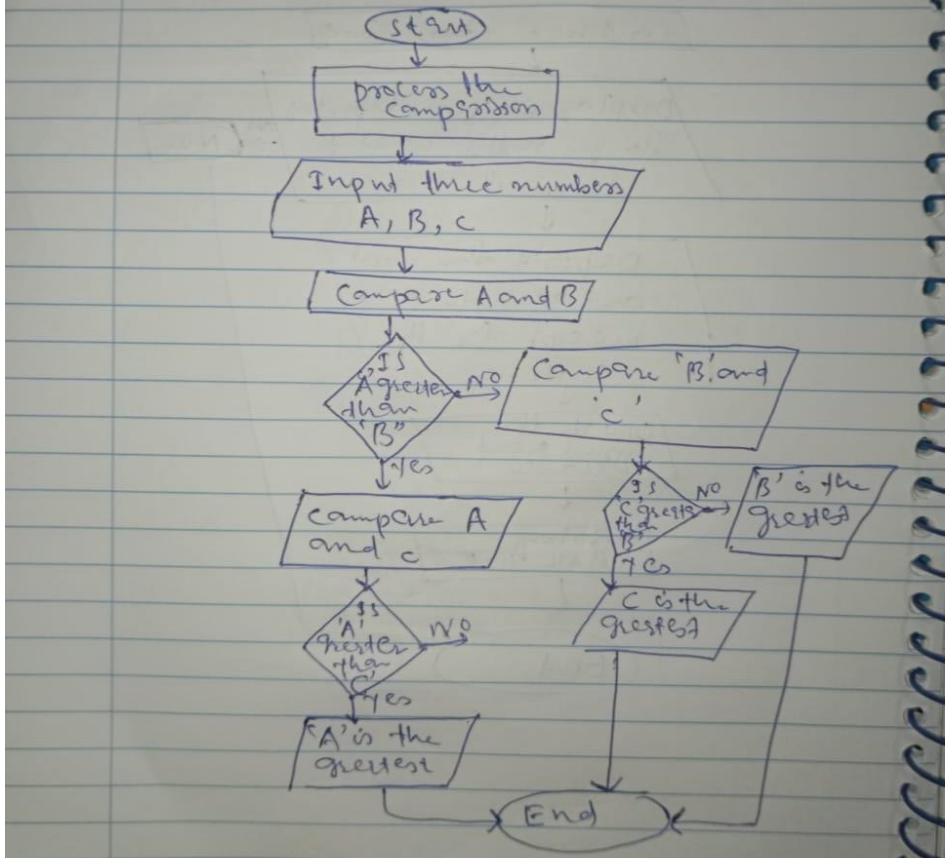


PROGRAMMING FUNDAMENTALS LAB 2 QUESTION 1 FLOWCHART



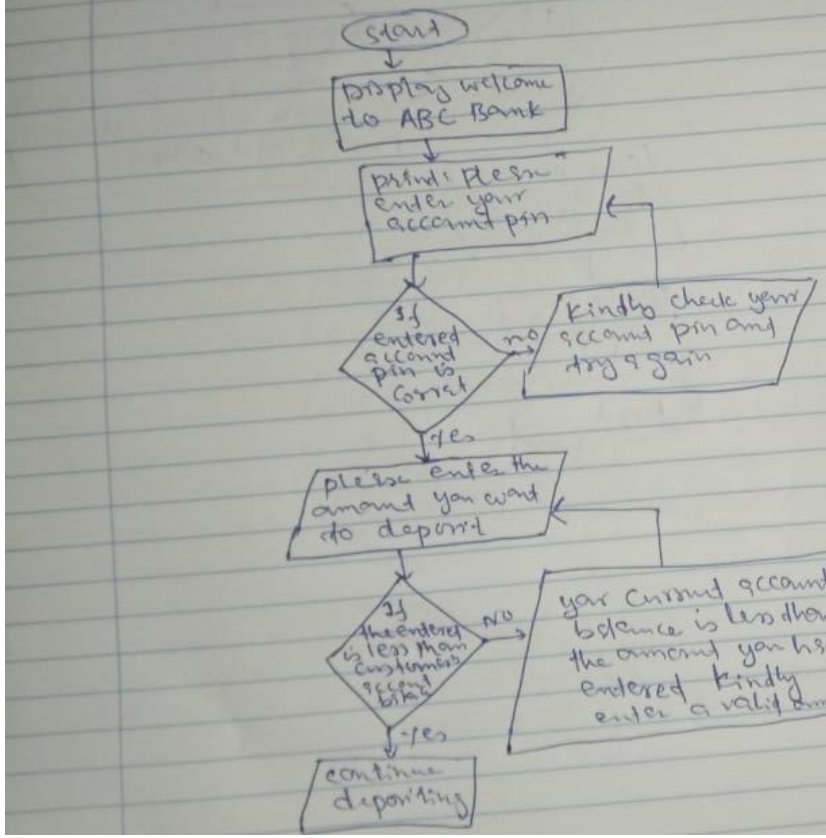
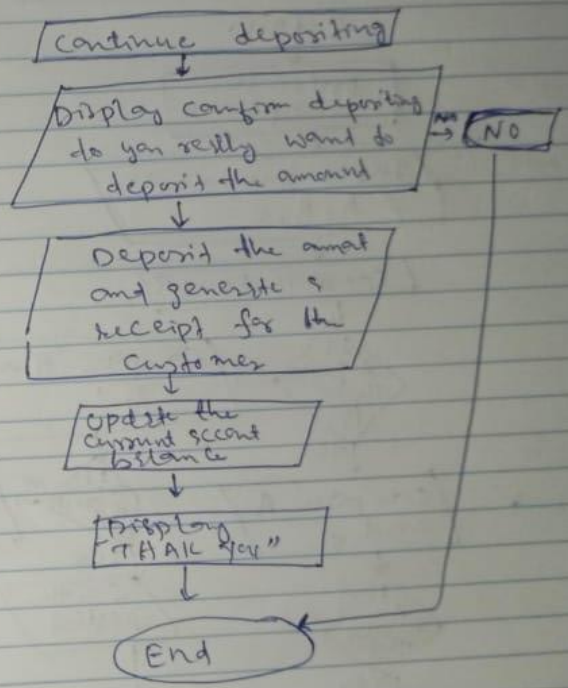
NAME Mudassir Ali
Roll number 24K-1025
Section: K Date:

Q3 Design a flowchart to determine which of three provided numbers is the greatest.



Name: Mudasir Ali
Roll number: 24K-1025
Section: K

Q2 Design a flowchart for handling a Customer's deposit transaction at a bank, including checks for account validity and deposit amount conditions.



Q2 flow chart continues....