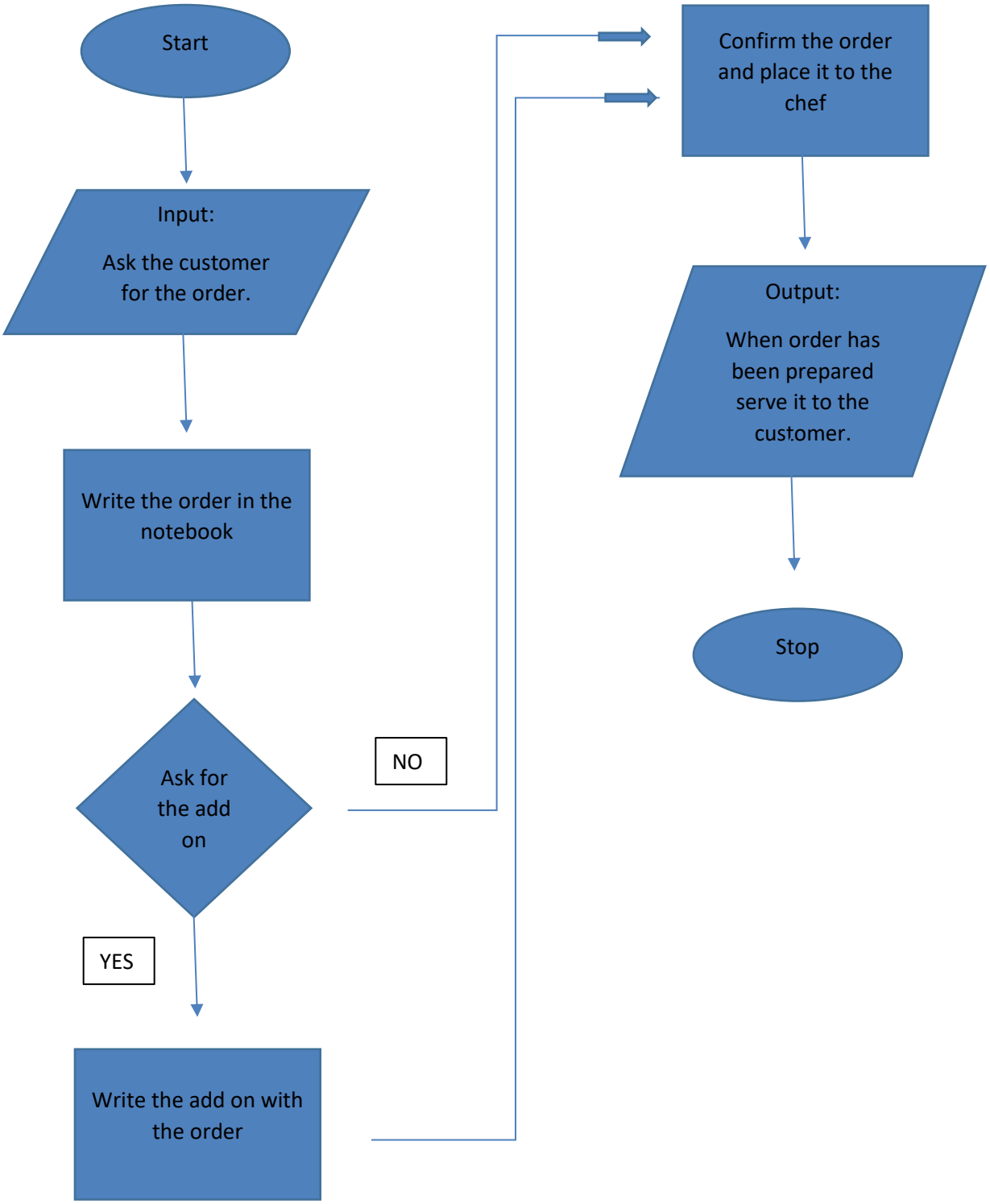
Lab Tasks:

Q 1. Design a flowchart, Pseudocode, Algorithm for processing a customer order at a restaurant, including handling special requests (Like add on).

A 1.

1. Flowchart:



2. Pseudocode:

Start

Input the order

Write the order in the notebook

Ask for the add on

IF yes:

Write the add on with the order

If no:

Proceed

Confirm the order and place it to the chef

When order has been prepared serve it to the customer.

End

3. Algorithm:

Step 1: Enter the Restaurant

Step 2: Get to counter

Step 3: Ask for the order to customer

Step 4: Write the order in the notebook

Step 5: Ask for the add on

Step 6: If yes, write it on the notebook, otherwise proceed

Step 7: Confirm the order

Step 8: Ask customer to take a seat

Step 9: Place the order to the chef and also remember to deliver the special request

Step 10: When order has been prepared serve it to the customer.

Step 11: Ask for the review

Q 2. Design a flowchart, Pseudocode, Algorithm for handling a customer's deposit transaction at a bank, including checks for account validity and deposit amount conditions.

A 2.

Pseudocode:

Start

Input credit card details

Input 500 Rs

Check the account of Customer

If have 500 Rs in his account

Valid, so proceed

Else

Not valid, so deny the customer

Check if there is the 500 Rs note in the bank

Valid, deposit the cash to the customer

Else

Not valid, Deny and ask him to deposit other note to sum up to 500 Ex: 5 notes of 100 Rs

End

Algorithm:

Step 1: Welcome the customer

Step 2: Ask customer for the query

Step 3: If he/she wants to deposit the cash

Step 4: If yes, ask him/her for the Credit Card details

Step 5: Check the money in his/her account whether the amount he/she is asking for is available?

Step 6: If yes, proceed or If no Deny the customer and tell him/her that he/she has insufficient amount in the account

Step 7: If the amount is available in the account check whether the notes are available in the bank at that moment or not

Step 8: If yes, Deposit the cash to the customer and If no, deny the customer that right now that much cash is not available in the bank and ask him/her to deposit other note to sum up the total of their desire amount.

Step 9: Note the transaction in the records and update it

Q 3. Design a flowchart, Pseudocode, Algorithm to determine which of three provided numbers is the greatest.

A 3.

Pseudocode:

Start

Input 3 numbers

Name it as X, Y, Z

Check the value of X, Y, Z

If X > Y and X > Z then the Value of X is the Greatest of the given three numbers

If X < Y and Z < Y then the Value of Y is the Greatest of the given three numbers

If X < Z and Y < Z then the Value of Z is the Greatest of the given three numbers

Output the greatest number after comparing the given statements

End

Algorithm:

Step 1: Write the three numbers

Step 2: Name the numbers as the X, Y, Z

Step 3: Check the values of X, Y, Z

Step 4: To find which number is the greatest apply the given steps

Step 5: If X > Y and X > Z then the Value of X is the Greatest of the given three numbers

Step 6: If X < Y and Z < Y then the Value of Y is the Greatest of the given three numbers

Step 7: If X < Z and Y < Z then the Value of Z is the Greatest of the given three numbers

Step 8: After the applying the steps you will get the greatest number

Step 9: Write the greatest number

Q 4. Implement an algorithm where the user enters a number, and an appropriate month is displayed.

A 4.

Pseudocode:

Start

Ask for the number between 1-12

If yes, proceed

If no, he enters the number other than that print error

Now display the months according to the order of numbers from 1-12

If like he enters the number 1 Print January

If like he enters the number 2 Print February

If like he enters the number 3 Print march

If like he enters the number 4 Print April

If like he enters the number 5 Print May

If like he enters the number 6 Print June

If like he enters the number 7 Print July

If like he enters the number 8 Print August

If like he enters the number 9 Print September

If like he enters the number 10 Print October

If like he enters the number 11 Print November

If like he enters the number 12 Print December

End

Algorithm:

Step 1: Write the number between 1-12

Step 2: If wrote correctly between 1-12, so proceed if no, print error

Step 3: Now display the months according to the order of numbers from 1-12

Step 4: If like he enters the number 1 Print January

If like he enters the number 2 Print February

If like he enters the number 3 Print march

If like he enters the number 4 Print April

If like he enters the number 5 Print May

If like he enters the number 6 Print June

If like he enters the number 7 Print July

If like he enters the number 8 Print August

If like he enters the number 9 Print September

If like he enters the number 10 Print October

If like he enters the number 11 Print November

If like he enters the number 12 Print December

Step 5: Enter the required month

Q 5. Create pseudocode a small calculator which only does '+' or '-'Operations. (Hint: Take three variable inputs with one being used for the operator)

A 5.

Pseudocode:

Start

Input

Write three variables in which two must be numbers and one should be the operation performed

Like X and Y can be the number 5 and 9 respectively

And the third variable should be the Operation like + or –

Now select the operation and numbers

If operation of sum is selected (+), So add both variables X and Y, like X+Y

If operation of Subtraction is selected (-), So minus one variables X and Y from other, like X-Y

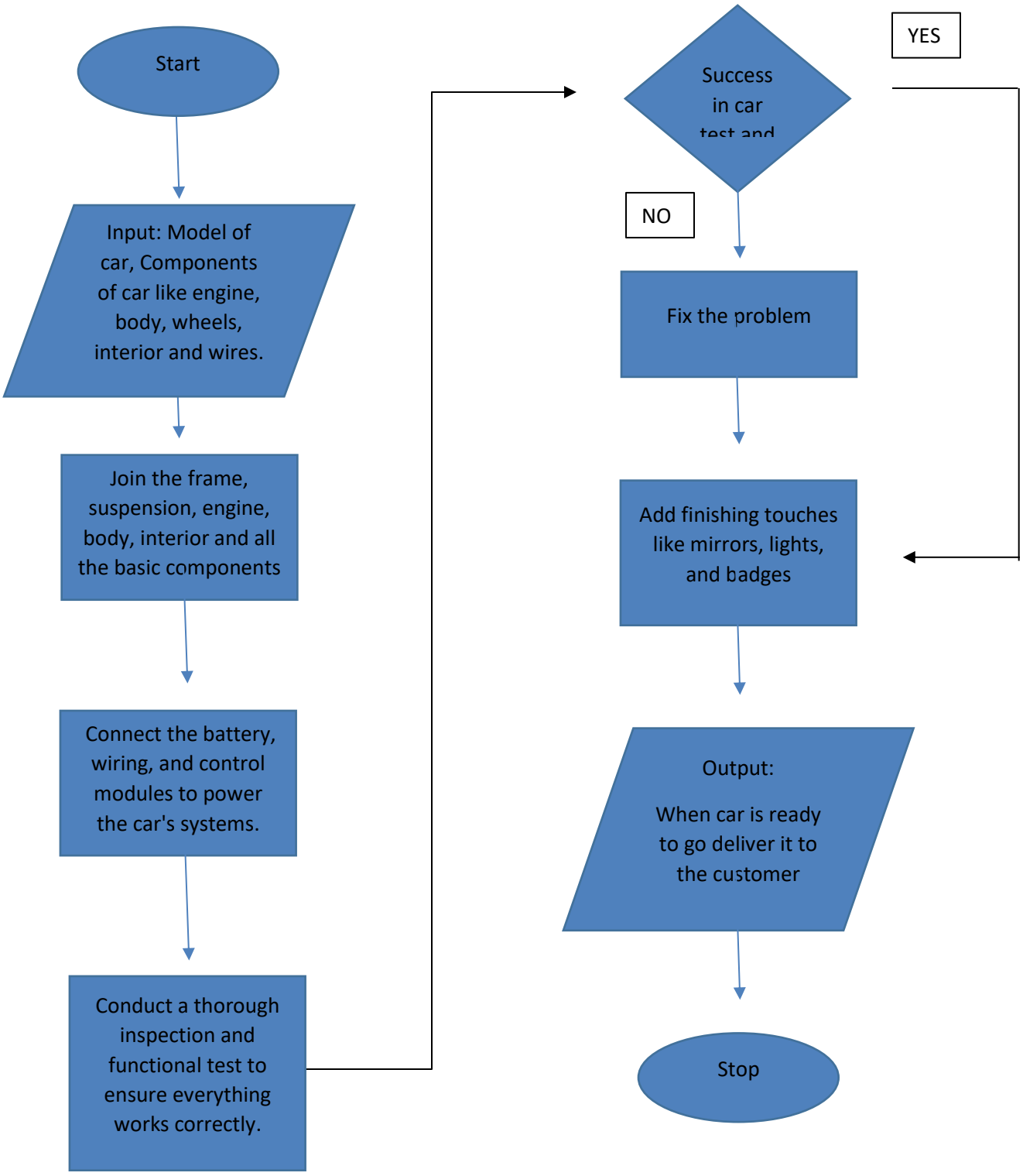
After the operation is performed print the solution

End

Q 6. 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.

A 6.

Flowchart:



Q 7. Implement an algorithm for making a simple calculator with all the operators (+,-,*,/,%)

A 7.

Algorithm:

Step 1: Write two numbers for which you want to solve the operation

Step 2: Express the number as Variables X and y respectively

Step 3: Write the operation you want to perform

Step 4: Put operations like (+,-,*,/,%) as the variable Z

Step 5: If the operation + is selected it means the sum of two numbers

Step 6: If yes, perform this equation X + Y

Step 7: If the operation – is selected it means to subtract one variable from other

Step 8: if yes, perform this equation X – Y

Step 9: If the operation * is selected it means to multiply two variables

Step 10: If yes, perform this Equation X * Y

Step 11: If the operation / is selected it means to divide one variable from other

Step 12: If yes, perform this equation X / Y

Step 13: If the operation % is selected it means to find the percentage of that number

Step 14: If yes, perform this equation *100

Step 15: Print the answer.

Q 9. Why we use .gitignore?

A 9. The purpose of gitignore files is to ensure that certain files not tracked by Git remain untracked.

Q 10. Difference between Algorithm and Pseudocode?

A 10. An algorithm is a systematic, logical approach that provides a step-by-step procedure for computers to solve a specific problem. Pseudocode is a simplified version of programming codes, written in plain English language and used to outline a program before its implementation.