

LAB TASK

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Section: BCS-1k

Course: Programming Fundamental (Lab)

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

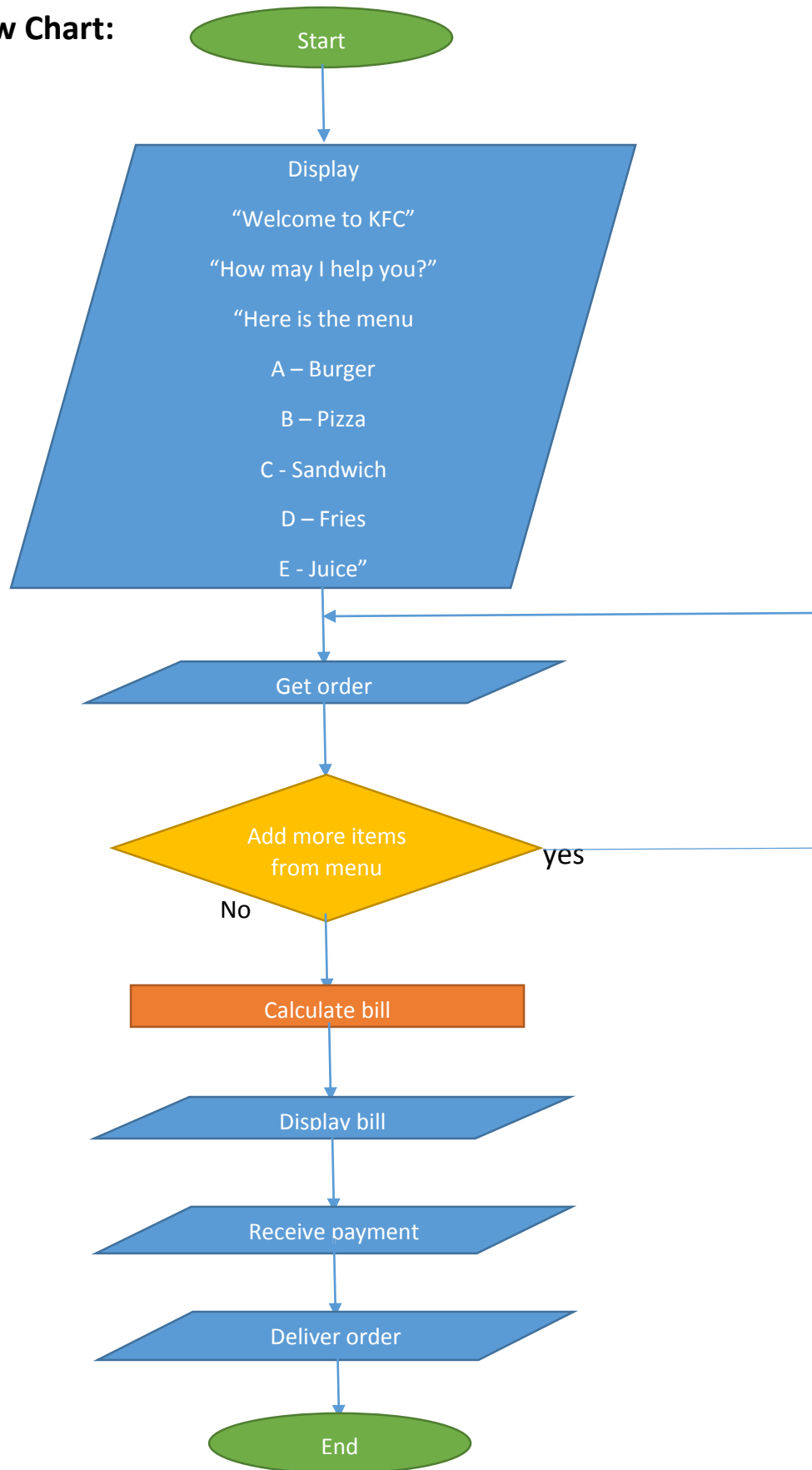
Algorithm:

1. Display "Welcome to KFC" message to the customer.
2. Ask the customer "How may I help you?"
3. Display menu to the customer;
 - A- Burger
 - B- Pizza
 - C- Sandwich
 - D- Fries
 - E- Juice
4. Read the selected items from the menu by the customer.
5. Ask the customer if he want to add more items from the menu.
6. If he selected more items read those items.
7. Calculate the bill of selected items by the customer.
8. Print and display the bill to the customer.
9. Receive payment from the customer.
10. Deliver the order to the customer.

Pseudocode:

1. Start
2. Display" Welcome to KFC, how may I help you?"
3. Display "Menu
 - A- Burger
 - B- Pizza
 - C- Sandwich
 - D- Fries
 - E- Juice"
4. Read order
5. Display" You want to add more items?"
6. Display" Yes or No"
7. If "Yes"
 - Then,
 - Read order
 - Go to step 9
8. Else "No"
9. Calculate bill
- 10.Display bill
- 11.Get cash
- 12.Deliver order
- 13.End

Flow Chart:



2. Design a flowchart, Pseudo code and Algorithm for customer to withdraw cash from ATM Machine.

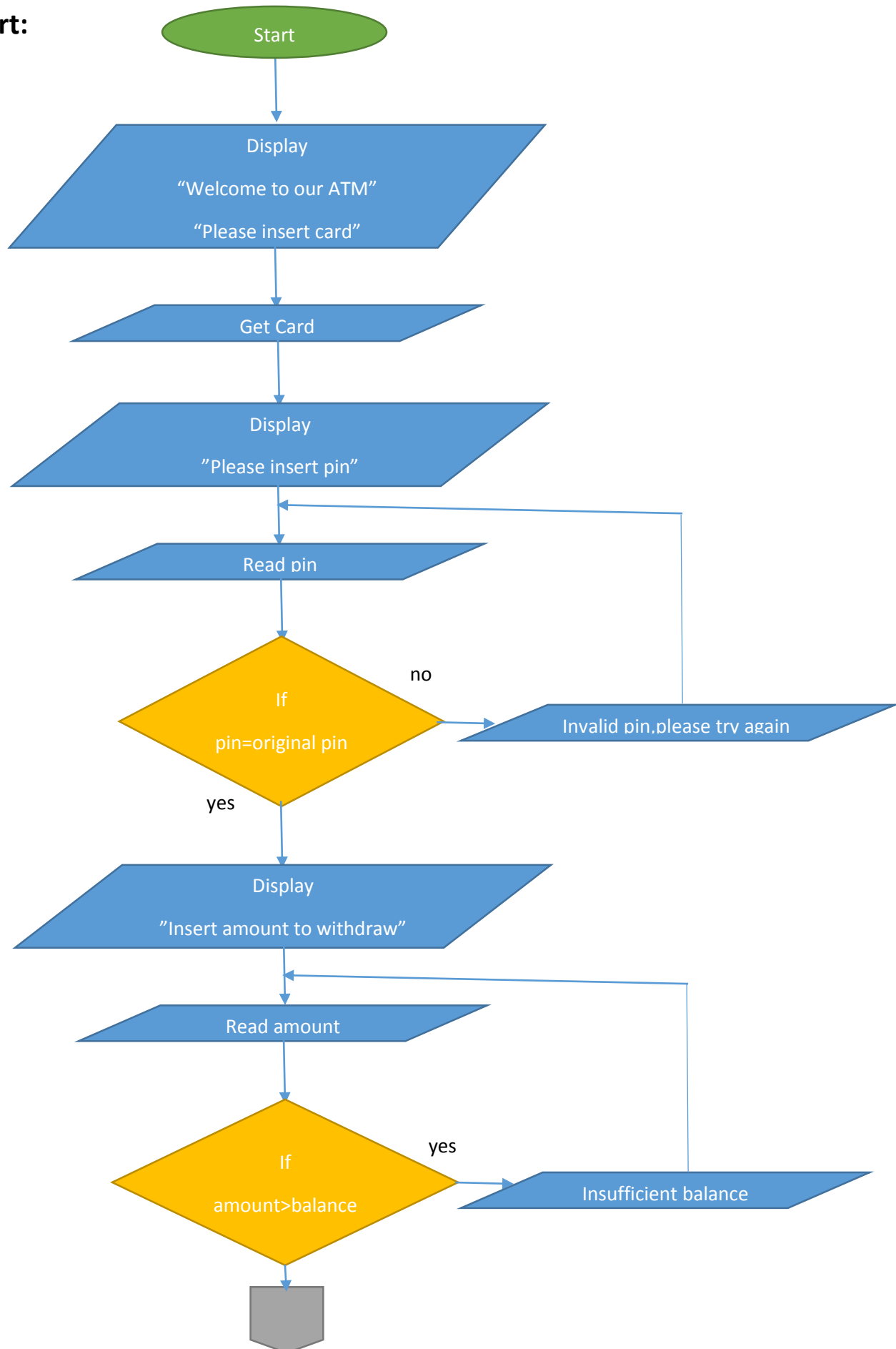
Algorithm:

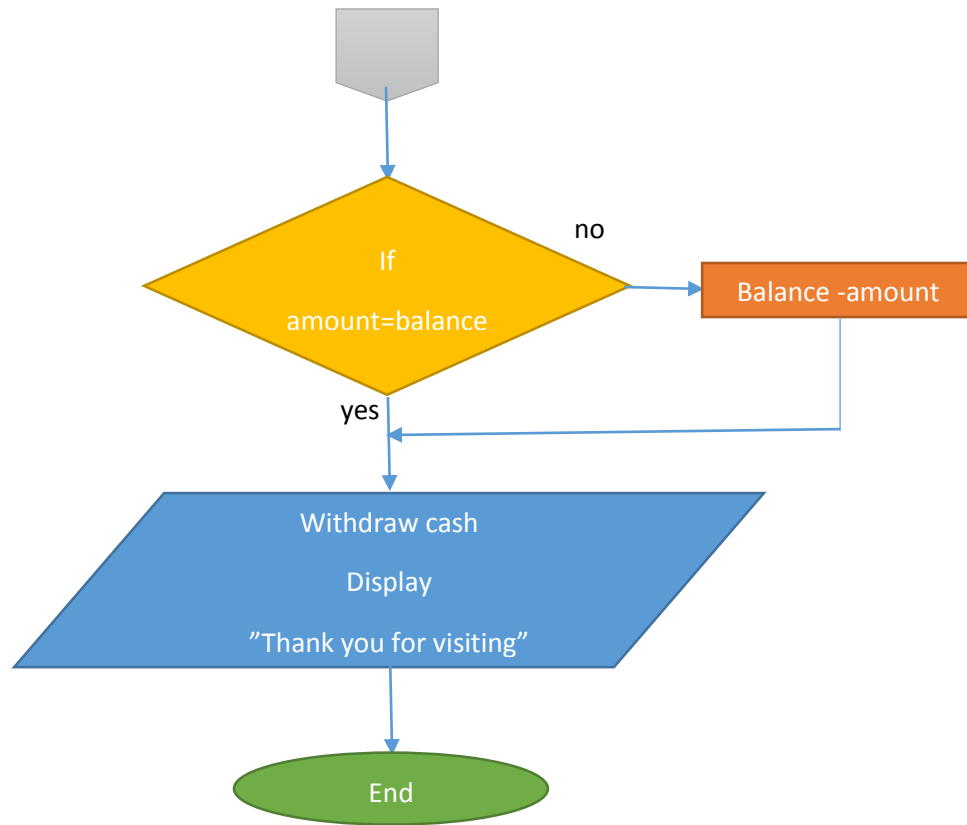
1. Display a message "Welcome to our bank."
2. Then display a new message" Please insert your card ."
3. Read and scan the account data on the card.
4. Then ask the customer to insert the pin code.
5. Read the pin and verify pin.
6. If
 pin = original pin
 Then
 Proceed to step 8.
7. Else
 Display a message" Invalid pin, please try again."
 Proceed to step 4.
8. Display a message" Please insert the amount to be withdrawn:"
9. Read the withdrawn amount.
10. If
 withdrawn amount<account balance
 Then
 Withdraw cash=account balance - withdrawn amount
 Withdraw the cash to customer, Withdraw cash.
 Display the message" Thank you for using our bank."
11. Else If
 withdrawn amount=account balance
 Then
 Withdraw cash= withdrawn amount
 Withdraw the cash to customer, Withdraw cash.
 Display the message" Thank you for using our bank."
12. Else
 Display the message" Insufficient balance." And go back to step 8.

Pseudocode:

1. Start.
2. Display" Welcome to our bank."
3. Display " Please insert your card ."
4. Read card.
5. Display" Insert pin:"
6. Read pin.
7. If
 - pin = original pin
 - Then
 - Go to step 9.
8. Else
 - Display" Invalid pin, please try again."
 - Go to step 5.
9. Display" Please insert the amount to be withdrawn:"
10. Read withdrawn amount.
11. If
 - withdrawn amount < account balance
 - Withdraw cash = account balance - withdrawn amount
 - Withdraw cash.
 - Display" Thank you for using our bank."
12. Else If
 - withdrawn amount = account balance
 - Withdraw cash = withdrawn amount
 - Withdraw cash.
 - Display" Thank you for using our bank."
13. Else
 - Display" Insufficient balance." Go to step 9.
14. End.

Flow Chart:





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

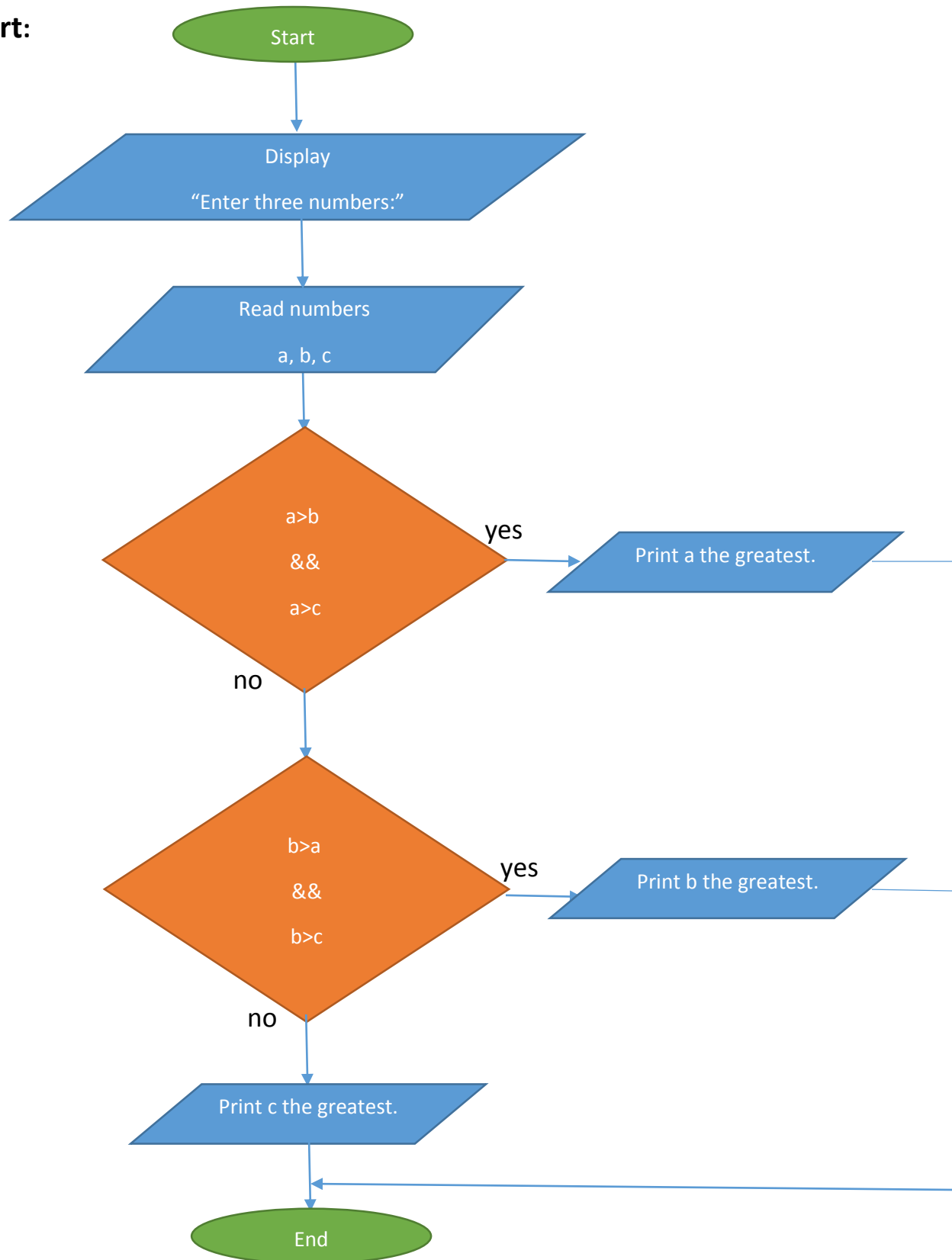
Algorithm:

1. Enter three random numbers a, b, c.
2. Read those numbers.
3. Compare a and b that which one is greater.
4. Compare the greater number from a and b with number c for finding which one is greater.
5. Display the greater number.

Pseudocode:

1. Start
2. Display "Enter three numbers:"
3. Read numbers.
4. Compare "a number" with "b number"
5. If
 a number > b number
 Compare "a number" with "c number"
 If
 a number > c number
 Display "a number is the greatest number"
 Else
 Display "c number is the greatest number"
 Go to step 6.
Else
 Compare "b number" with "c number"
 If
 b number > c number
 Display "b number is the greatest number"
 Else
 Display "c number is the greatest number"
6. End

Flow Chart:



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

Algorithm:

1. Display a message to enter a number between one to twelve.
2. Read the number.
3. If
 Number is 1.
 Display the message "January"
4. If
 Number is 2.
 Display the message "February"
5. If
 Number is 3.
 Display the message "March"
6. If
 Number is 4.
 Display the message "April"
7. If
 Number is 5.
 Display the message" May"
8. If
 Number is 6.
 Display the message "June"
9. If
 Number is 7.
 Display the message "July"
- 10.If
 Number is 8.
 Display the message "August"
- 11.If
 Number is 9.
 Display the message "September"

12.If

Number is 10.

Display the message "October"

13.If

Number is 11.

Display the message "November"

14.If

Number is 12.

Display the message "December"

15.Else

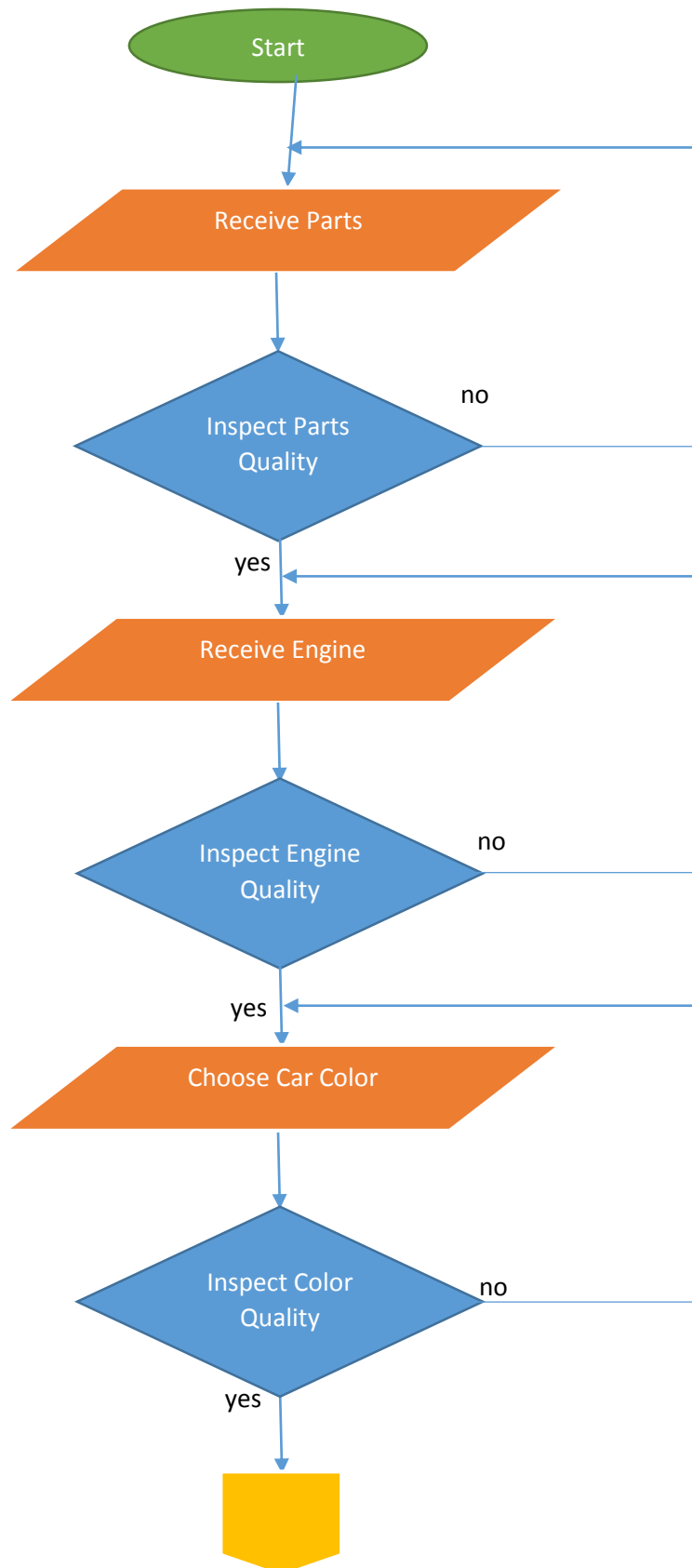
Display the message "In valid number".

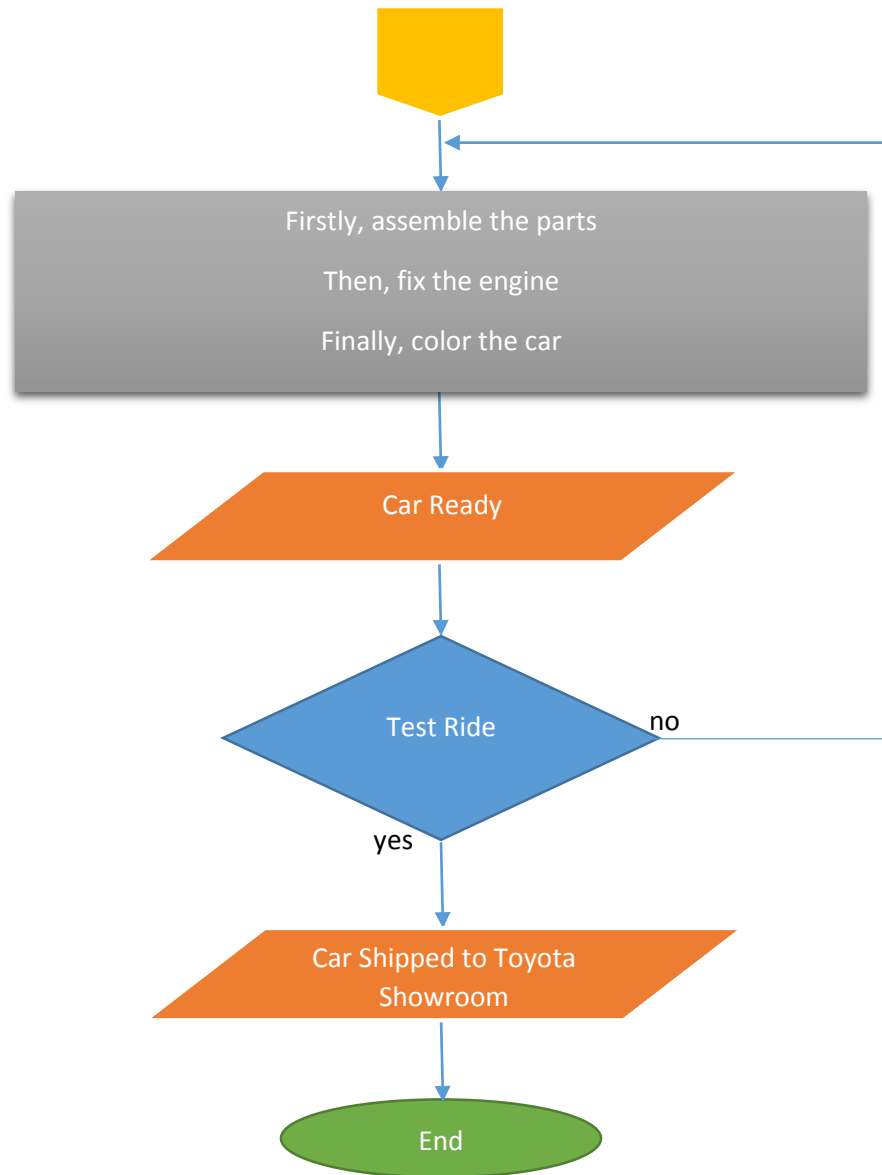
5. Create pseudocode a small calculator which only does '+' or '-' Operations. (Hint: Take three variable inputs with one being used for the operator)

Pseudo code:

1. Start
2. Display "Enter first number:"
3. Read first number, a.
4. Display "Enter second number:"
5. Read first number, b.
6. Display "Enter the operator being used:"
7. Read operator, operator.
8. If
 - operator= +
 - Then,
 - result= a+b
 - Display" The result is : ", result.
9. Else If
 - operator= -
 - Then,
 - result= a-b
 - Display" The result is : ", result.
10. Else
 - Display" invalid operator."
11. End.

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.





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

Algorithm:

1. Display a message for entering first number.
2. Read the first number, a.
3. Display a message for entering second number.
4. Read the second number, b.
5. Display a message for entering the operator being use.
6. Read the operator, operator.
7. If the operator= +
Then,
 result= a+b
 Display the result, result.
8. Else If operator= -
 Then,
 result= a-b
 Display the result, result.
9. Else If operator= *
 Then,
 result= a*b
 Display the result, result.
10. Else If operator= /
 Then,
 result= a/b
 Display the result, result.
11. Else If operator= %
 Then,
 result= a%b
 Display the result, result.
12. Else display the message of invalid operator.

8. Why we use .gitignore?

Answer: “.gitignore” helps keep your repository clean and focused by excluding files and directories that are irrelevant to version control. This practice ensures that only essential code and configuration files are tracked, improving collaboration, repository performance, and security.

9. Difference between Algorithm and Pseudocode?

Answer:

- **Level of Detail:**
 - **Algorithm:** Provides a high-level description of a process or solution.
 - **Pseudocode:** Provides a more detailed, structured representation of an algorithm that is easier to convert into actual code.
- **Purpose:**
 - **Algorithm:** Defines the logical sequence of steps needed to solve a problem.
 - **Pseudocode:** Bridges the gap between the conceptual algorithm and the specific syntax required for programming.
- **Form:**
 - **Algorithm:** Abstract and often described in natural language or flowcharts.
 - **Pseudocode:** Combines natural language with structured, code-like constructs.
- **Execution:**
 - **Algorithm:** Not executable; it is a conceptual solution.
 - **Pseudocode:** Not executable either but closer to code and can be translated into actual programming languages.

THE END