

ASSIGNMENT 1

TOPIC 1-3

GROUP MEMBER'S (MATRIC NO):

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SECTION: 02

QUESTION 1:

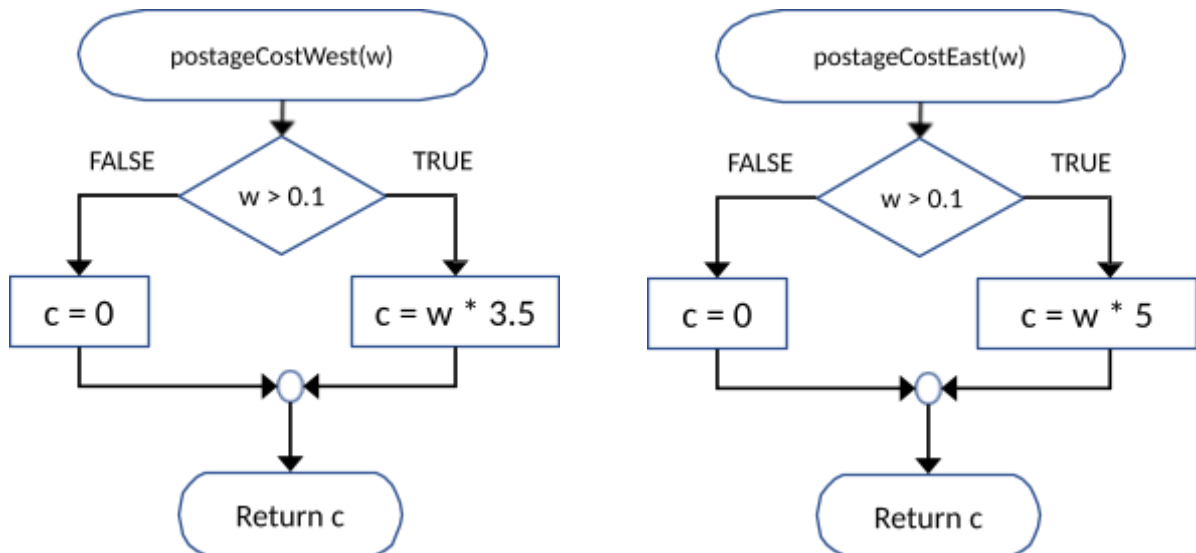
You are requested by the client to write a program to **sum the total postage cost** of items based on the location. Below is the list of requirements given by the client.

- The user can **enter the number of item** to be processed by the program (not more than 10 items)
- The user must **choose the location** to send; West Malaysia or East Malaysia.
- The program should able to **detect if item's weight entered is a valid one**. Item should **not weight more than 5 Kg**. A **zero (0) or less value** entry is also considered as an **invalid input** of item weight.
- Two Functions, **postageCostWest(weight)** and **postageCostEast(weight)** has been prepared to **calculate the postage cost to be charged to the item**. Based on its weight, item may not be charged thus this function may return a zero (0) value of postage cost.
- The final outputs of the program are the **total number of item being charged** with **postage cost** and the **sum of the overall postage cost**.

Draw a flow chart to solve the above problem. Below is the list of identifiers you have to use in your flow chart.

Identifiers	Descriptions
item_no	Number of item to be processed
count	Count the number of items being processed.
Weight	Weight of item entered by the user.
Location	Location to send; West Malaysia or East Malaysia.
cost	Postage cost of item calculated and returned by postageCost(weight) function.
item_charged	Total number of items being charged with postage cost.
sum_cost	Sum of overall cost for items being charged with postage cost.

You need to include a call to functions in your flow chart. Flow chart for `postageCostWest(weight)` function and `postageCostEast(w)` function has been prepared as follows:



*Use on-page connector in your flowchart design

*Design your flowchart in MSWord or other tools, convert to PDF before submission.

QUESTION 2:

1. Read thoroughly the question below. Produce a pseudo code and flow chart for solving the problem.
2. Write a C++ program to calculate the net salary for an employee of a company that manufactures children's toys.

The company has three types of employees:

G - fixed paid employees; **K**- Contract workers; and **S** - subcontract workers.

The input to this problem consists of the employee name, employee number, and employee code: G, K or S. Follow-up input depends on the value of the employee code and the associated category.

Fixed paid employees will be paid a fixed amount of payment at the end of each working month.

Fixed -paid employees can be categorized under **P**: manager or **B**: non -manager.

Only non -managerial category employees are allowed to claim overtime pay. For the first 10 hours of overtime, employees will be paid at RM15 per hour. For each subsequent hour, employees will be paid at RM12 per hour. However, in a month an employee can claim payment of up to 20 hours of overtime. Claims for payment for excessive hours of time will be rejected.

For this category net salary is calculated as: fixed salary + overtime salary.

Contract workers will be paid according to the number of hours worked and based on category:

B- Recovery; **S**- Maintenance

Recovery work will be paid an average of RM20 per hour with claims of up to 100 hours.

Maintenance work will be paid at RM10 per hour for the first 50 hours and RM5 per hour for the next hour. The maximum amount that can be claimed is also limited to 100 hours.

Subcontract workers will be paid according to the number of toys assembled. Subcontract employees can only assemble toys from one of the categories:

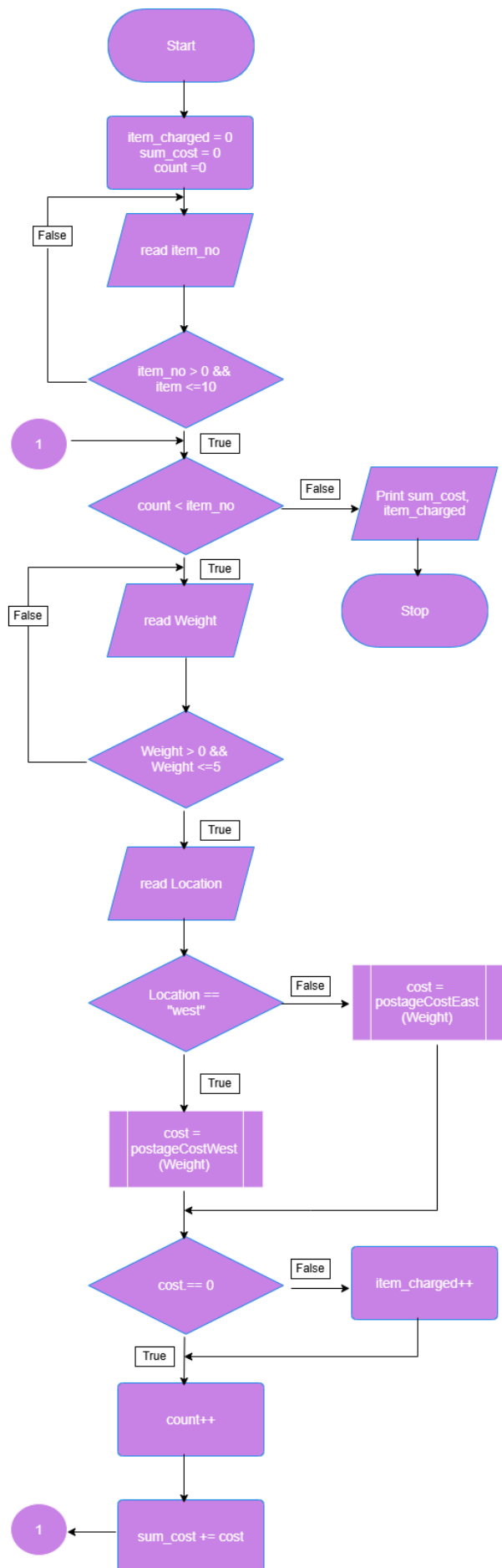
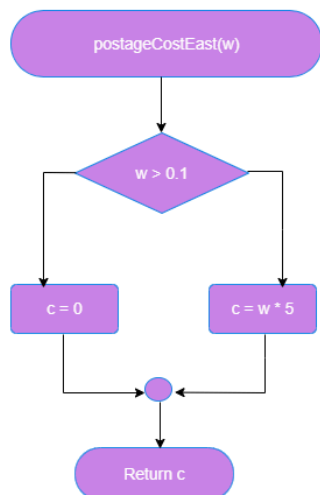
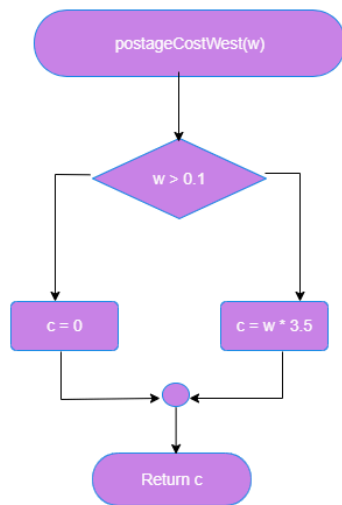
B- Large size toy; **S**- Medium size toy; **K**- Small size toy

Each large size toy successfully assembled will be paid RM8 each; medium size toy will be paid RM5 each, and small size toys will be paid RM2 each.

At the end of the process display the employee's name, employee number and income for the month. Use an appropriate selection control structure to each of the previously described cases.

Test your program to make sure every condition is correctly executed.

Answer Question 1:



Answer Question 2:

Pseudocode:

1.0 Start

2.0 fixedSalary = 1700

3.0 Read employeeName, employeeNumber, employeeCode

3.1 If(employeeCode != 'G' || employeeCode != 'K' || employeeCode != 'S')

3.1.1 Print "Invalid code. Please enter the code again : "

3.1.2 Read employeeCode

4.0 End_if

5.0 If(employeeCode == 'G')

5.1 Read category

5.2 If(category != 'P' || category != 'B')

5.2.1 Print "Invalid category. Please enter the category again : "

5.2.2 Read category

5.3 End_if

5.4 If(category == 'P')

5.4.1 netSalary = fixedSalary

5.5 Else

5.5.1 Read hour

5.5.2 If(hour >=1 && hour <= 10)

5.5.2.1 overtimeSalary = hour * 15

5.5.3 Else if(hour >10 && hour <=20)

5.5.3.1 overtimeSalary = (10 * 15) + (hour - 10)*12

5.5.4 Else

5.5.4.1 overtimeSalary = (10 * 15) + (10 * 12)

5.5.5 End_if

5.5.6 netSalary = fixedSalary + overtimeSalary

5.6 End_if

6.0 Else if(employeeCode == 'K')

6.1 Read category

6.2 If(category != 'B' || category != 'S')

6.2.1 Print "Invalid category. Please enter the category again : "

6.2.2 Read category

6.3 End_if

6.4 Read hour

6.5 If(category == 'B')

6.5.1 If(hour >=1 && hour <= 100)

6.5.1.1 netSalary = hour * 20

6.5.2 Else

6.5.2.1 netSalary = 100 * 20

6.5.3 End_if

6.6 Else

6.6.1 If(hour >=1 && hour <=50)

6.6.1.1 netSalary = hour * 10

6.6.2 Else if(hour > 50 && hour <=100)

6.6.2.1 netSalary = (50 * 10) + (hour - 50) * 5

6.6.3 Else

6.6.3.1 netSalary = (50 * 10) + (50 * 5)

6.6.4 End_if

6.7 End_if

7.0 Else

7.1 Read toySize

7.2 If(toySize != 'B' || toySize != 'S' || toySize != 'K')

7.2.1 Print "Invalid size. Please enter the size again : "

7.2.2 Read toySize

7.3 End_If

7.4 Read toyAssembled

7.5 If(toySize == 'B')

7.5.1 netSalary = toyAssembled * 8

7.6 Else if(toySize == 'S')

7.6.1 netSalary = toyAssembled * 5

7.7 Else

7.7.1 netSalary = toyAssembled * 2

7.8 End_if

8.0 End_if

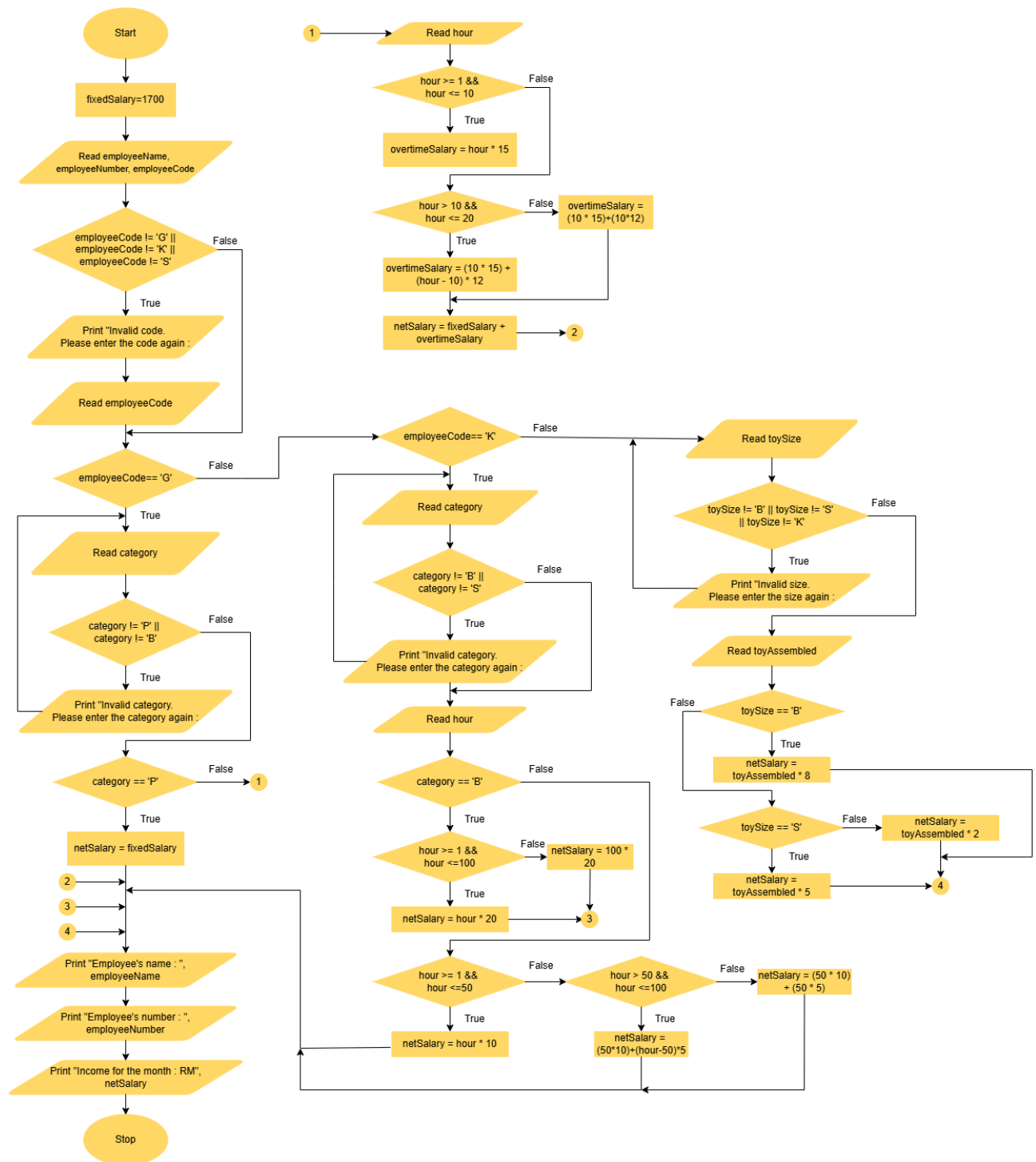
9.0 Print "Employee's name : ", employeeName

10.0 Print "Employee's number : ", employeeNumber

11.0 Print "Income for the month : RM", netSalary

12.0 Stop

Flowchart :



Programming: Send in VSCode file