

## ASSIGNMENT 1

### TOPIC 1-3

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SECTION: 02

#### QUESTION 1:

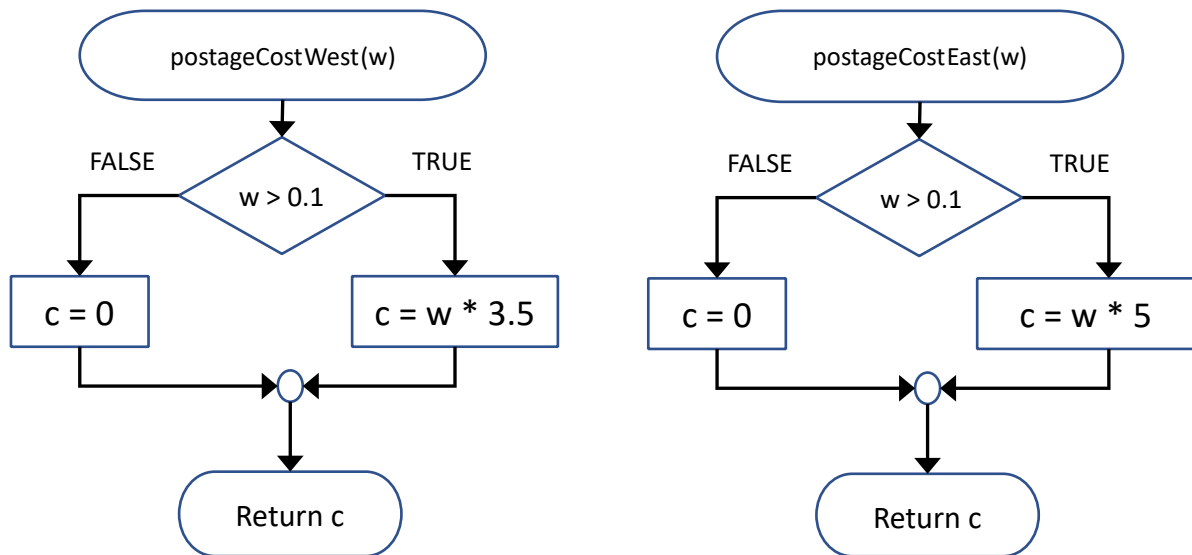
You are requested by the client to write a program to sum the total postage cost of items based on the location. Below is the list of requirements given by the client.

- 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 <code>postageCost(weight)</code> 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.

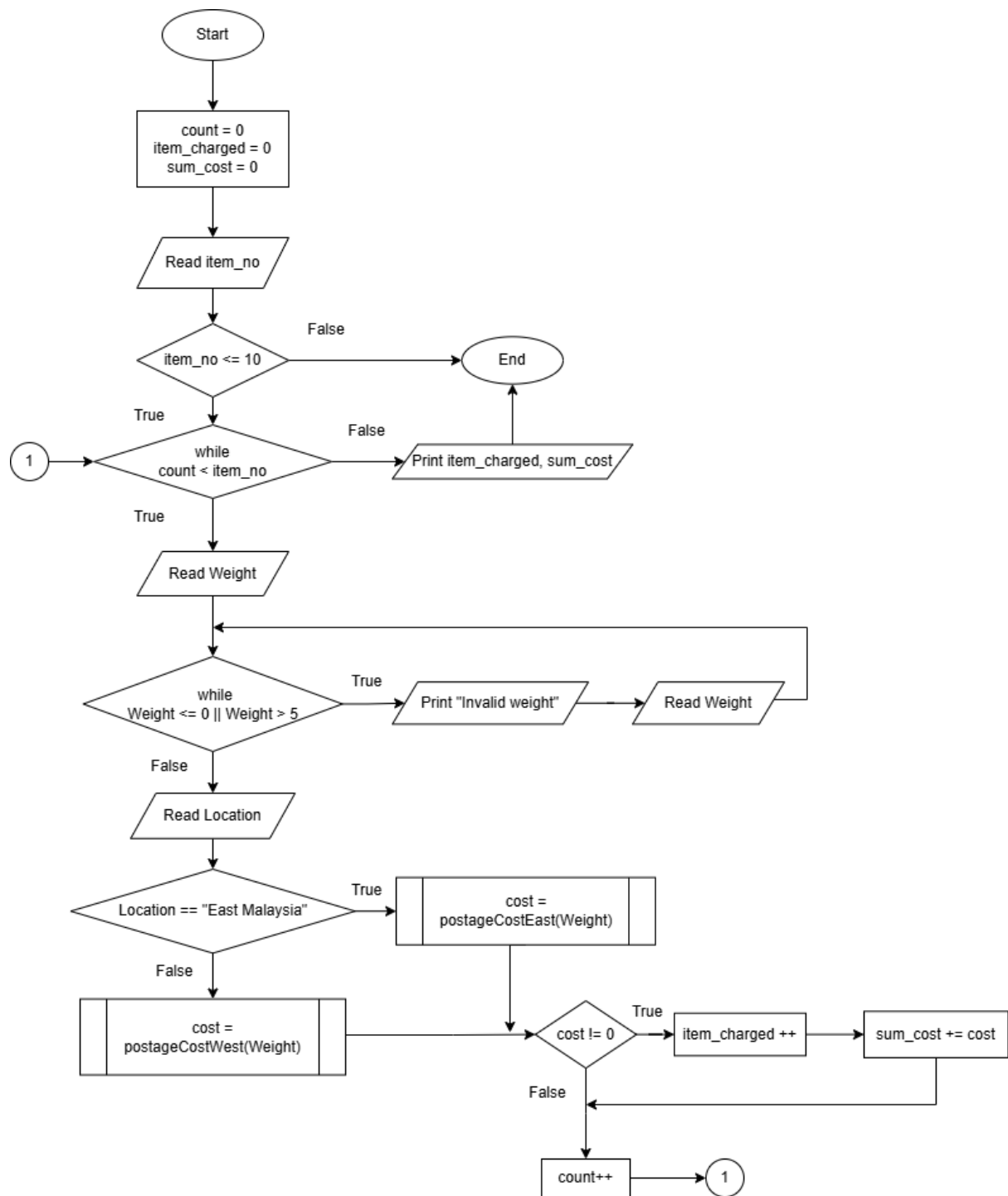
You need to include a call to functions in your flow chart. Flow chart for postageCostWest(weight) function and postageCostEast(w) function has been prepared as follows:



\*Use on-page connector in your flowchart design

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

## QUESTION 1:



## 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.

## QUESTION 2 - Pseudocode

```
1. Start
2. Set overtimeSalary = 0, fixedSalary = 1200
3. Read employeeName, employeeNumber, code
4. if (code != 'G' && code != 'K' && code != 'S')
    4.1 Print "Access denied. Invalid employee's code"
5. else
    5.1 switch (code)
        5.1.1 case 'G' :
            5.1.1.1 Read category
            5.1.1.2 if (category == 'B')
                5.1.1.2.1 Read overtime
                5.1.1.2.2 if (overtime <= 10)
                    5.1.1.2.2.1 overtimeSalary = overtime * 15
                5.1.1.2.3 else if (overtime <= 20)
                    5.1.1.2.3.1 overtimeSalary = (10*15) + (overtime-10) * 12
                5.1.1.2.4 else
                    5.1.1.2.4.1 overtimeSalary = (10*15) + (10*12)
                5.1.1.2.5 End if
            5.1.1.3 End if
            5.1.1.4 netSalary = fixedSalary + overtimeSalary
        5.1.2 case 'K' :
            5.1.2.1 Read category, hours
            5.1.2.2 if (category == 'B')
                5.1.2.2.1 if (hours <= 100)
                    5.1.2.2.1.1 netSalary = hours * 20
                5.1.2.2.2 else
                    5.1.2.2.2.1 netSalary = 20 * 100
                5.1.2.2.3 End if
            5.1.2.3 else if (category == 'S')
                5.1.2.3.1 if (hours <= 50)
                    5.1.2.3.1.1 netSalary = hours * 10
                5.1.2.3.2 else if (hours <= 100)
                    5.1.2.3.2.1 netSalary = (50*10) + (hours-50) * 5
                5.1.2.3.3 else
                    5.1.2.3.3.1 netSalary = (50*10) + (5*50)
                5.1.2.3.4 End if
            5.1.2.4. End if
        5.1.3 case 'S' :
            5.1.3.1 Read category, noToys
            5.1.3.2 if (category == 'B')
                5.1.3.2.1 netSalary = noToys * 8
            5.1.3.3 else if (category == 'S')
                5.1.3.3.1 netSalary = noToys * 5
            5.1.3.4 else
                5.1.3.4.1 netSalary = noToys * 2
            5.1.3.5 End if
    5.2 Print employeeName, employeeNumber, netSalary
6. End if
7. End
```

QUESTION 2 - Flowchart

