

**Assignment**

Assignment Number of Title	Pair Assignment	
Subject Code	TMF 1414	Subject Name: Introduction to Programming

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Due Date : 3 rd November 2019	Date received and approved (for office use only)

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I certify that I have not plagiarized the work of others or participated in unauthorized collusion when preparing this assignment. I also certify that I have taken proper care in safeguarding my work and have made all reasonable efforts to ensure that my work not be able to be copied.

Signature : *Shasha*

Signature : *SVye*

MARK :

Comments:

This cover sheet must be completed, signed and firmly attached to the front of the submission.

All work must be submitted by the due date. If an extension of work is granted, an assignment extension acknowledge slip must be signed by lecturer/ tutor and attached to the assignment.

Please note that it is the student's responsibility to retain a copy of his/her own assignment.

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Introduction

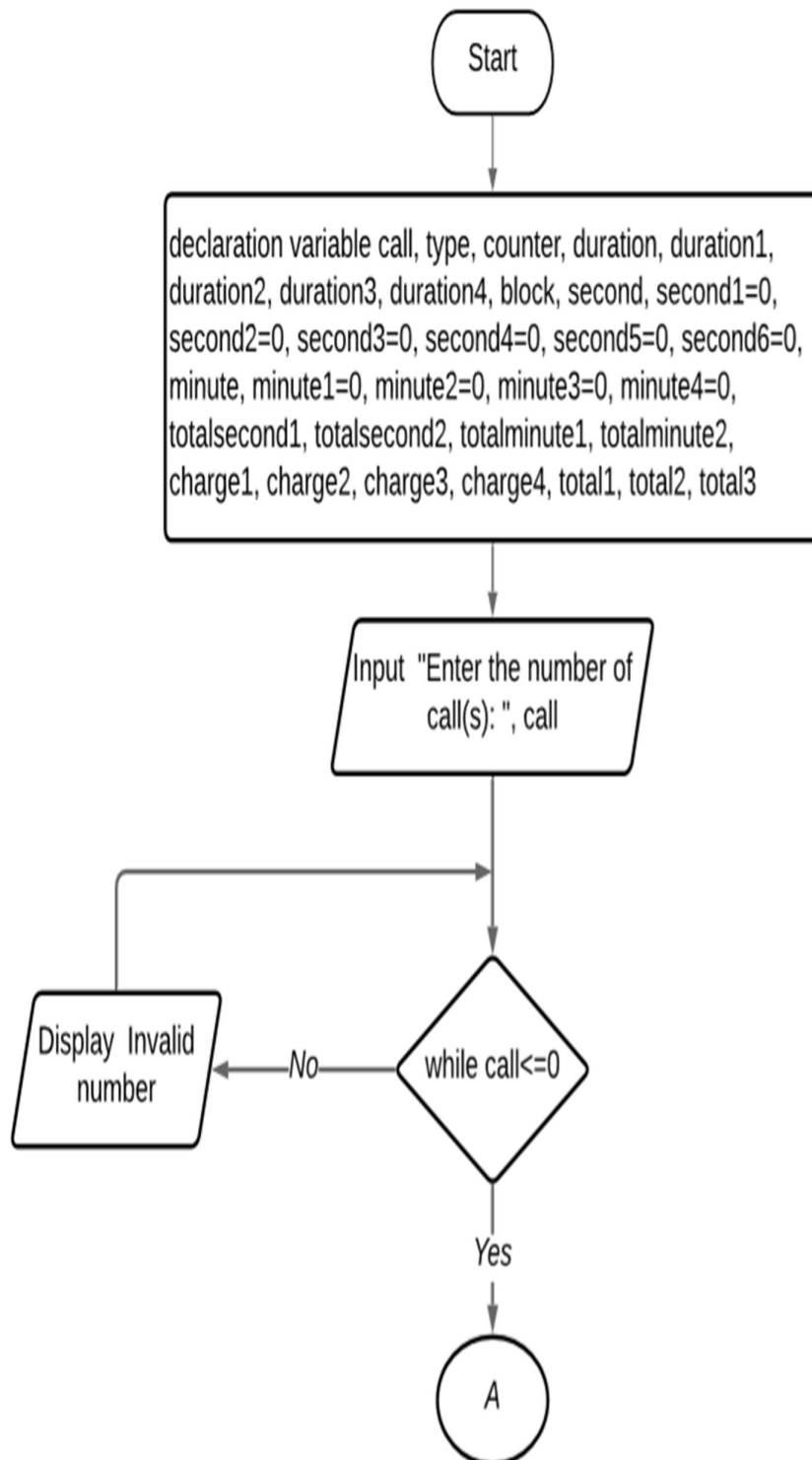
The program is created to estimate the total call charge for every customer. There are 4 call types which are local with same operator, local with other operator, international for landline and international for mobile. Different type of call has different charge.

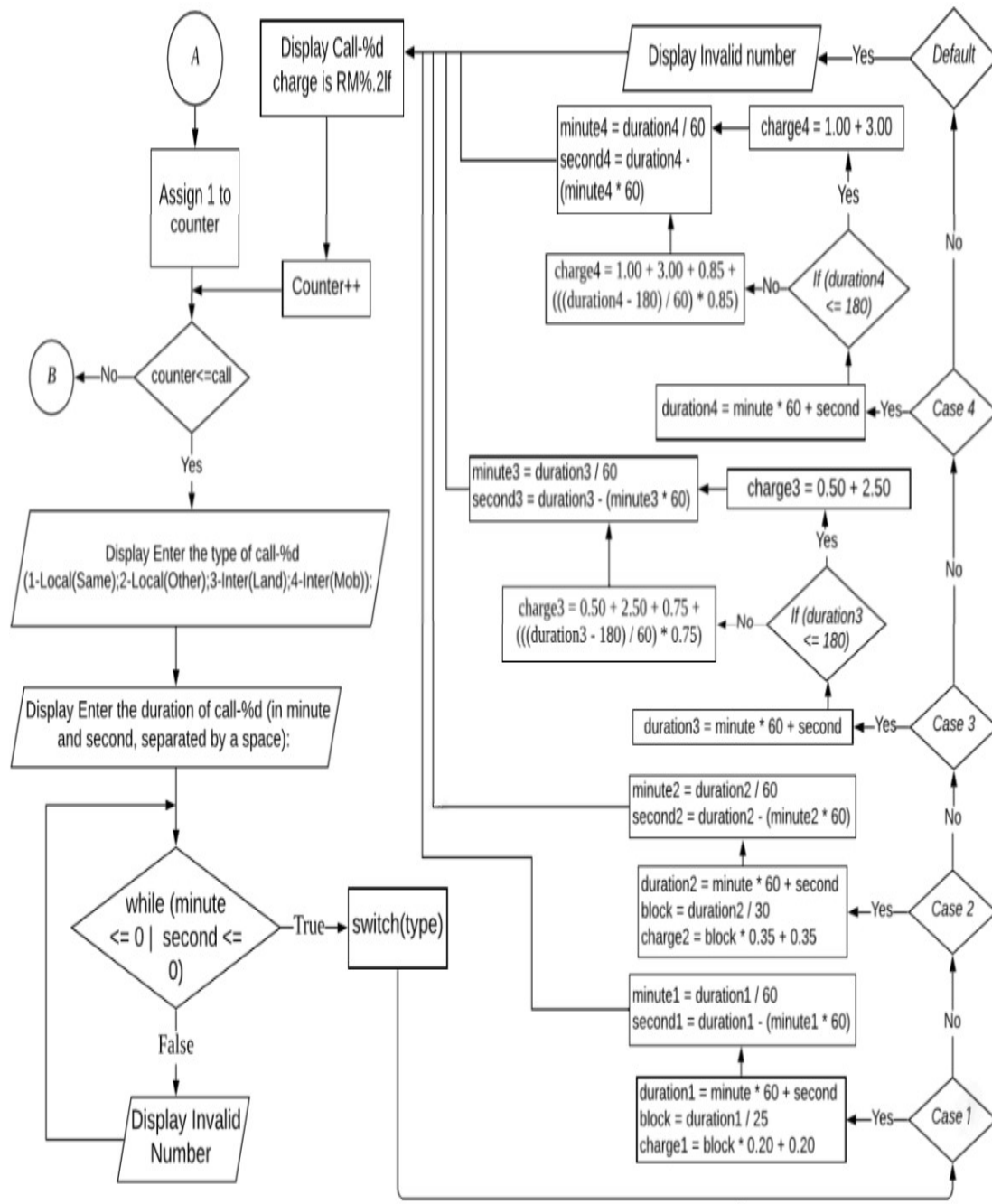
Initially, the program will prompt the user for the number of call made. Then, the type and duration for each phone call will be input. After that, the program will output the total of duration for local call with total charge as well as duration for international call with total charge. The total charge for the customer will be displayed on the screen.

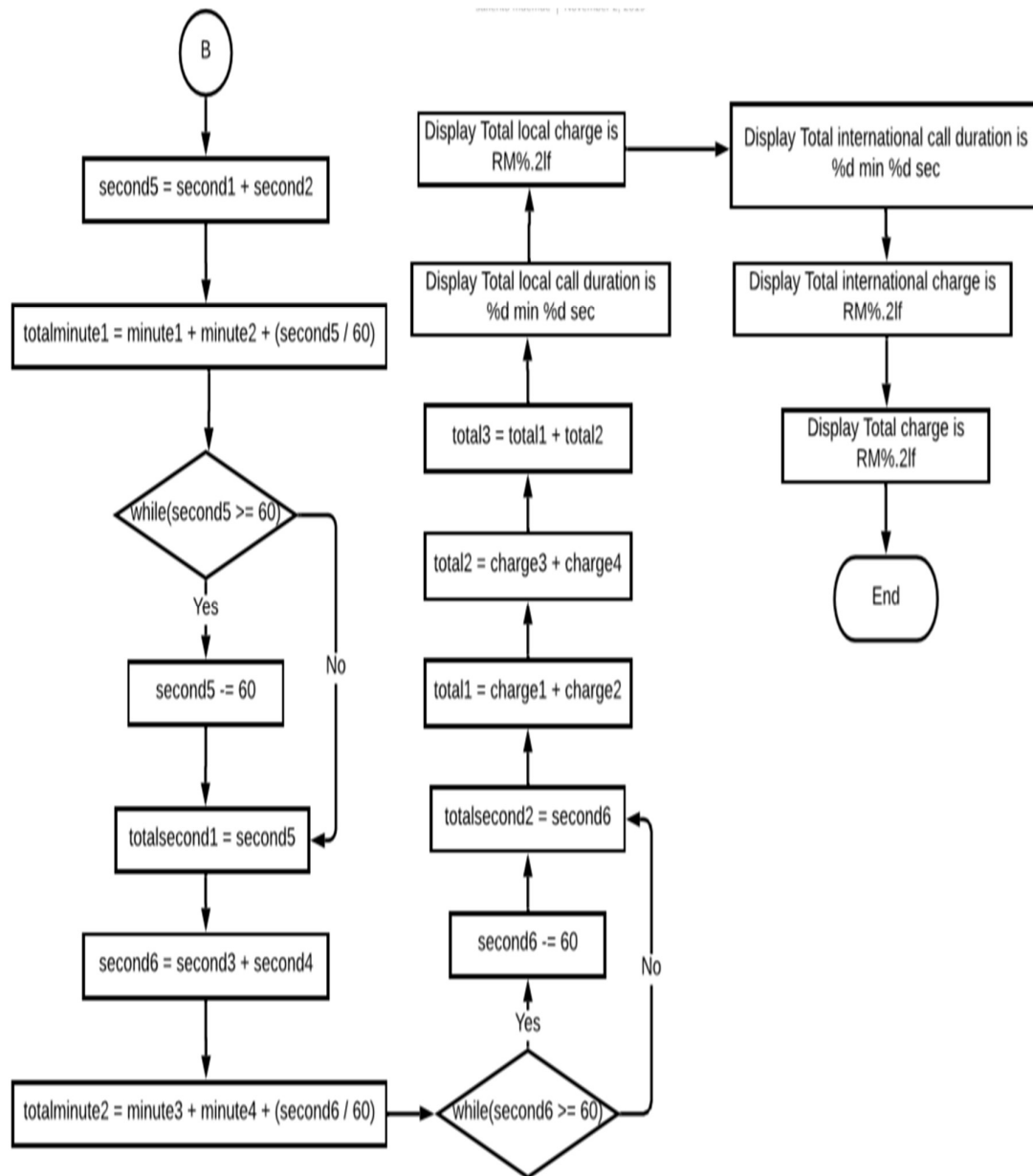
Our program will check for invalid data such as non-positive or number of calls or less than 1, and make sure number of second reach 60 will change to a minute. It will prompt the user for corrected input wherever it detects invalid input.

Other than that, this program also applying appropriate control structures to handle program logic such as include multiple selection structure and also include two different type of repetition structures. Our program uses proper indentation and style, meaningful identifiers and appropriate comments to make sure program can run smoothly even though it becomes more complex.

Flow charts







Start

Declare call, type, counter, duration, duration1, duration2, duration3, duration4, block, second, second1=0, second2=0, second3=0, second4=0, second5=0, second6=0, minute, minute1=0, minute2=0, minute3=0, minute4=0, totalsecond1, totalsecond2, totalminute1, totalminute2, double charge1, charge2, charge3, charge4, double total1, total2, total3

total1=total local call duration

total1=total local charge

total3=total international call duration

total2=total international charge

total3=total charge

Display "Enter number of call(s): "

while call <= 0

Display "Invalid number."

Display "Enter the number of call(s): "

For counter=1; counter<=call; counter++

Display "Enter the type of call-%d (1-Local(Same);2-Local(Other);3-Inter(Land);4-Inter(Mob)):"

Display "Enter the duration of call-%d (in minute and second, separated by a space): "

while minute <= 0 and second <= 0

Display "Invalid number."

Display "Enter the duration of call-%d (in minute and second, separated by a space): "

switch type

Case 1:

Compute duration1 = minute * 60 + second

Compute block = duration1 / 25

Compute charge1 = block * 0.20 + 0.20

Display "Call-%d charge is RM%.2lf"

Compute minute1 = duration1 / 60

Compute second1 = duration1 - (minute1 * 60)

Case 2:

Compute duration2 = minute * 60 + second

Compute block = duration2 / 30

Compute charge2 = block * 0.35 + 0.35

Display "Call-%d charge is RM%.2lf"

Compute minute2 = duration2 / 60

Compute second2 = duration2 - (minute2 * 60)

Case 3:

Compute duration3 = minute * 60 + second

If duration3 <= 180

Compute charge3 = 0.50 + 2.50

Display "Call-%d charge is RM%.2lf"

else

Compute charge3 = 0.50 + 2.50 + 0.75 + (((duration3 - 180) / 60) * 0.75)

Display "Call-%d charge is RM%.2lf"

EndIf

Compute minute3 = duration3 / 60

Compute second3 = duration3 - (minute3 * 60)

Case 4:

Compute duration4 = minute * 60 + second

If (duration4 <= 180)

Compute charge4 = 1.00 + 3.00

Display "Call-%d charge is RM%.2lf"

else

Compute charge4 = 1.00 + 3.00 + 0.85 + (((duration4 - 180) / 60) * 0.85)

Display "Call-%d charge is RM%.2lf"

EndIf

Compute minute4 = duration4 / 60

Compute second4 = duration4 - (minute4 * 60)

Default:

Display "Invalid choice."

EndCase


```

Compute second5 = second1 + second2
Compute totalminute1 = minute1 + minute2 + (second5 / 60)
while second5 >= 60
    Compute second5 = second5 - 60
Compute totalsecond1 = second5
Compute second6 = second3 + second4
Compute totalminute2 = minute3 + minute4 + (second6 / 60)
while second6 >= 60
    Compute second6 = second6 - 60
Compute totalsecond2 = second6
Compute total1 = charge1 + charge2
Compute total2 = charge3 + charge4
Compute total3 = total1 + total2
    Display "Total local call duration is %d min %d sec"
    Display "Total local charge is RM%.2lf"
    Display "Total international call duration is %d min %d sec"
    Display "Total international charge is RM%.2lf"
    Display "Total charge is RM%.2lf"
End

```

Print Screens

```
C:\Users\User\Desktop\Introduction to Programming\lab work\asmnc (2).exe
Enter number of call(s): 3
Enter the type of call-1 (1-Local(Same);2-Local(Other);3-Inter(Land);4-Inter(Mob)): 2
Enter the duration of call-1 (in minute and second, separated by a space): 1 43
Call-1 charge is RM1.40

Enter the type of call-2 (1-Local(Same);2-Local(Other);3-Inter(Land);4-Inter(Mob)): 4
Enter the duration of call-2 (in minute and second, separated by a space): 6 18
Call-2 charge is RM7.40

Enter the type of call-3 (1-Local(Same);2-Local(Other);3-Inter(Land);4-Inter(Mob)): 1
Enter the duration of call-3 (in minute and second, separated by a space): 2 47
Call-3 charge is RM1.40

Total local call duration is 4 min 30 sec
Total local charge is RM2.80
Total international call duration is 6 min 18 sec
Total international charge is RM7.40
Total charge is RM10.20

-----
Process exited after 36.78 seconds with return value 0
Press any key to continue . . .
```