**Selection-Conditional Exercises**

Problem #1

Create a flowchart and a pseudocode that would input an integer number and then indicate whether the number is an even or an odd number.

Pseudocode:

Variables used:

num is numeric

Begin:

Input:

Accept num

Process & Output:

if (num % 2 = = 0) then

Display “Even”

else

Display “Odd”

End.

Flowchart:

**START**

Input num

if (num % 2 == 0)

Output “Odd”

False

A

True

Output “Even”

A

**END**

Problem #2

Workers at Kookaburra Factory have a regular working hours of 40 hours per week and are paid Php 50.00 per hour. However, if the workers rendered more than 40 hours per week, the excess hours are paid 75% more. Create a flowchart and a pseudocode that would input the number of hours rendered by a worker in one week and output his net salary.

Pseudocode:

Variables used:

hrs, netSal are numeric

Begin:

Input:

Accept hrs

Process:

if (hrs > 40) then

netSal = ((hrs – 40) \* 50.00) \* 1.75 + (40 \* 50.00)

else

netSal = hrs \* 50.00

Output:

Display “Net Salary:", netSal

End.

Flowchart:

**START**

A

**END**

Input hrs

netSal = hrs \* 50.00

if (hrs > 40)

False

True

netSal = ((hrs – 40) \* 50.00) \* 1.75 + (40 50.00

A

A

Output “Net Salary:", netSal

A

Problem #3

The fine for an over-speeding violation depends on the speed of the erring driver, as follows:

60 to 75 mph = Php 2000.00

76 mph and above = Php 4000.00

Create a flowchart and a pseudocode to input the car’s speed and then output the fine, if any.

Pseudocode:

Variables used:

speed, fine are numeric.

Begin:

Input:

Accept speed

Process:

if ( speed >= 60 && speed <= 75) then

fine = 2000

else if (speed >= 76) then

fine = 4000

else

fine = 0

Output:

Display “Fine incurred:”, fine

End.

Flowchart:

**START**

A

Input speed

Fine = 0

B

Output “Fine incurred:”, fine

if ( speed >= 60 && speed <= 75)

Fine = 2000

True

False

else if ( speed >= 76)

B

**END**

B

A

False

True

Fine = 4000

Problem #4

LabC9. Family restaurant gives discounts for their valued customers on their 25th anniversary. Below are the discounts and the amount to be purchased by the customer:

Php1500 - above: 7.5%

Php1000 – Php1499: 6.55%

Php500 – Php999: 5.5.%

Php250 – Php499: 4.5%

Below 250 – No discount

Pseudocode:

Variables used:

amount, discount, tolAm are numeric.

Begin:

Input:

Accept amountGiven

Process:

if (amount >=1500) then

discount = 0.075

tolAm = amount – (amount \* discount)

else if (amount >= 1000 && amount <= 1499) then

discount = 0.065

tolAm = amount – (amount \* discount)

else if (amount >= 500 && amount <= 999) then

discount = 0.055

tolAm = amount – (amount \* discount)

else if (amount >= 250 && amount <= 499) then

discount = 0.045

tolAm = amount – (amount \* discount)

else

tolAm = amount

Output:

Display”Amount Purhcased:”, amount

Display”Discount:”, discount

Display”Total Amount:”, tolAm

End.

Flowchart:

**START**

Input amountGiven

if ( amount >= 1500)

discount = 0.075

tolAm = amount – (amount \* discount)

True

B

B

9

discount = 0.065

tolAm = amount – (amount \* discount)

True

False

False

else if (amount >= 1000 && amount <= 1499)

9

else if ( amount >= 500 && amount <= 999)

Output

”Amount Purhcased:”, amount

”Discount:”, discount

”Total Amount:”, tolAm

**END**

B

B

discount = 0.045

tolAm = amount – (amount \* discount)

discount = 0.055

tolAm = amount – (amount \* discount)

tolAm = amount

False

True

else if (amount >= 250 && amount <= 499)

False

True

Problem #5

Create a program that will input an integer and determine if the number is zero, positive, or a negative value.

Pseudocode:

Variables used:

num is numeric;

Begin:

Input:

Accept num

Process & Output:

if (num = = 0) then

Display “The integer is equivalent to zero”

else if (num > 0) then

Display “The integer is positive”

else

Display “The integer is negative”

End.

**START**

A

Input num

Output “The integer is negative”

B

if (num = = 0)

Input num Output “The integer is equivalent to zero”

True

False

else if (num = = 0)

**END**

B

Output “The integer is positive”

B

A

False

True