

Assignment – 4

Task – 1

A lot of mobile phones have tip calculators. Write one. Ask the user for the price of the meal and the percent tip they want to leave. Then print both the tip amount and the total bill with the tip included.

Task – 2

Verify these equations:

$$(a + b)^2 = a^2 + 2ab + b^2$$

$$(a - b)^2 = a^2 - 2ab + b^2$$

Let $a = 3.3412$ and $b = 5.3453$

(Hint: calculate the LHS and RHS separately and then print the equality between them as shown below)

The Output should be properly formatted with the % formatter and should look like as show below:

```
First equation : 075.455282 = 75.455282
Second equation: 0000004.02 = 04.02
```

Task – 3

If $i = 3$, $j = 2$ what is the result of following expressions?

- a. $i + 5 >= j - 6$
- b. $j * 10 < i ** 2$
- c. $i < j + 5 > j ** 4$

Evaluate all the above in a notepad (Include this for submission) and check your result in the interpreter.

Task – 4

Write a program that asks the user for total number of seconds and prints out how many minutes and seconds that is. For instance, 200 seconds is 3 minutes and 20 seconds. [Hint: Use arithmetic operators to get the result.]

Task – 5

i)

a. Evaluate the following expression.

```
2 - 23*2; Print the result
```

b. Add one set of parentheses so that the expression evaluates to -12.

c. Now move your parentheses so that the expression evaluates to -62.

d. Move your parentheses one last time to make the expression evaluate to 0.

ii).

a.) Evaluate the following expression. `2/3*4^2; print the result.`

b.) Add two sets of parentheses that leave the value of the expression unchanged. (Your parentheses may enclose neither the entire expression nor a single number).

iii)

a.) Repeat exercise 2 for this expression.

```
> 1+2/3*4+5
```

iv) Calculate the value of the following expression manually in a notepad(Include this for submission)

```
5/2*2+4%3+9-3//4
```

And then confirm your calculation in the IDLE.

v) Calculate the value of the following expression manually in a notepad(Include this for submission)

```
5//2*2+4%3+9-3/4
```

And then confirm your calculation in the IDLE.