2. Program on Making Modules

2.1 Aim

Creating a module in Python for temperature conversions.

2.2 Software Used

1. Anaconda Navigator
2. Jupyter Notebook

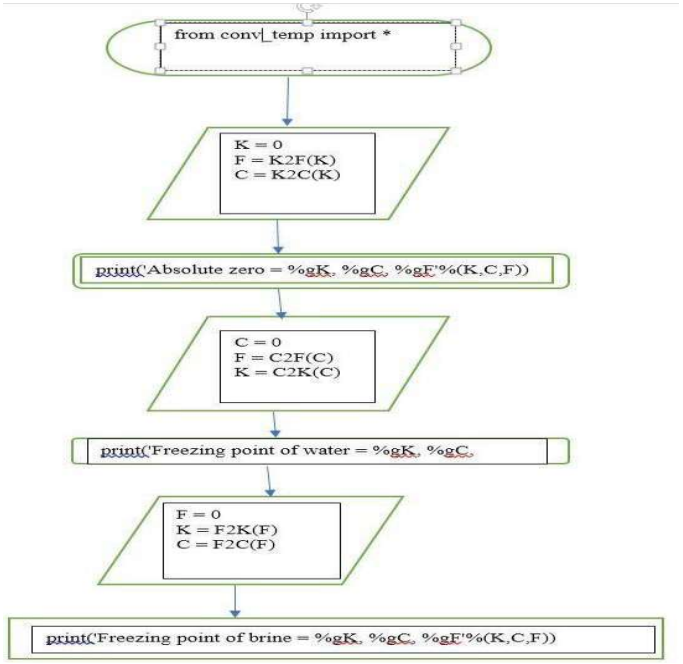
2.3 Pre Lab Questions

1. In python, name the keyword used to define functions
2. For python functions, Arguments are often shortened to _____in Python documentation.
3. For the following function, write the correct function call.

```
def fun1(name, age):
print(name, age)
```

Module for Temperature Conversions

2.4 Flowchart & Algorithm



1. Import all functions from con_temp file.
2. Give K=0 and use the K2F AND K2C functions to perform conversions.
3. Print the absolute zero value after conversions in three units.
4. Give C=0 and use the C2F AND C2K functions to perform conversions.
5. Print the freezing point of water value after conversions in three units.
6. Give F=0 and call the F2K AND F2C functions to perform conversions.
7. Print the freezing point of brine after conversions in three units.

2.5 Procedure

1. After installing anaconda navigator, open anaconda navigator and then select Jupyter Notebook and click on 'Launch'.
2. In Jupyter Notebook click on 'New Launcher' and then single click on 'Python3' under Notebook.
3. Type your program to get the desired output.
4. To view the output, click on 'Run' or press 'Shift+Enter' to execute program of the selected cell. Note: In case of error, refer to the error message and do the required changes.

2.6 Program

Program:

```
# Module creation for six conversions.
```

Main Program:

2.7 Observation

2.8 Post Lab Questions

1. Which of the following are TRUE?
   a. A function is a code block that only executes when it is called.
   b. The Python function always returns a value.
   c. A function only executes when it is called and we can reuse it in a program
   d. Python doesn't support nested function
2. What is the output of the following function call

```
def fun1(num):
        return num + 25
fun1(4)
```

3. How many arguments does the following python function take?

```
defmy_function(fname, lname):
print(fname + " " + lname)
```

2.9 Result

Thus, the python functions were created in a module convert_temp.py to declare the different formulae to convert temperatures and their outputs were obtained by calling the respective function from the module.

S.NO	INPUT	OUTPUT
1	K=0	Absolute zero = 0K, -273.15C, -459.67F
2	C=0	Freezing point of water = 273.15K, 0C, 32F
3	F=0	Freezing point of brine = 255.372K, -17.7778C, 0F

The outputs that are generated for the different sets of input values are represented in the table.