Assignment -2

Python Programming

Assignment Date	29 September 2022
Student Name	Mr. Hadhi Sulaiman
Team ID	PNT2022TMID44152
Student Roll Number	724019104005
Maximum Marks	2 Marks

Question-1:

Build a python code, Assume you get temperature and humidity values (generated with random functions to a variable) and write a condition to continuously detect alarm in case of high temperature

Solution:

```
import random
Temperature=random.randint(1,100)
Humidity=random.randint(1,100)
print(Temperature)
print(Humidity)
if((Temperature>30)&(Humidity>40)):
print("Temperature and Humidity are
HIGH!!! ")
print("**ALARM ON**")
else:
print("Temperature and Humidity are
NORMAL!!! ")
print("**ALARM OFF**")
```

Question-2:

Write a Python program to calculate number of days between two dates.

Solution:

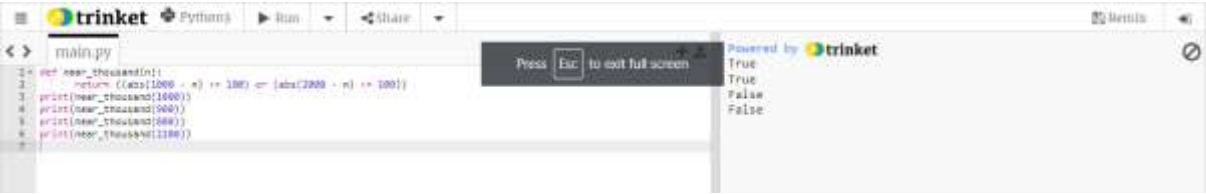
```
from datetime import date
f_date = date(2014, 7, 2)
l_date = date(2014, 7, 11)
delta = l_date - f_date
print(delta.days)
from datetime import date
f_date = date(2014, 7, 2)
```

Question-3:

Write a Python program to test whether a number is within 100 of 1000 or 2000

Solution:

```
def near_thousand(n):
    return ((abs(1000 - n) <= 100) or (abs(2000 - n) <= 100))
print(near_thousand(1000))
print(near_thousand(900))
print(near_thousand(800))
print(near_thousand(2200))
```



Question-4:

Write a NumPy program to partition a given array in a specified position and move all the smaller elements values to the left of the partition, and the remaining values to the right, in arbitrary order (based on random choice).

Solution:

```
import numpy as np
nums = np.array([70, 50, 20, 30, -11, 60, 50, 40])
print("Original array:")
print(nums)
print("\nAfter partitioning on 4 the position:")
print(np.partition(nums, 4))
```

Question-5:

Write a Python program to reverse the digits of a given number and add it to the original, If the sum is not a palindrome repeat this procedure.

Solution:

```
def rev_number(n):
 s = 0
 while True:
  k = str(n)
  if k == k[::-1]:
   break
  else:
   m = int(k[::-1])
   n += m
   s += 1
 return n

print(rev_number(1234))
print(rev_number(1473))
```