Lembar Soal & Jawaban UTS
Prodi S1 Teknologi Informasi USU
Pemrograman Integrative
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Petunjuk:

Cantumkan tanggapan layar (screenshot) untuk kode yang dituliskan dan hasil yang diperoleh sehingga saya bisa mengetahui bahwa Anda sendiri yang mengerjakan ujian ini.

Apabila ditemukan jawaban yang identik sama dari hasil screenshot-nya, maka hasil ujian dari setiap mahasiswa tersebut akan dibatalkan.

Letakkan file soal beserta jawaban ini pada platform kelas.usu.ac.id dalam format .pdf. Letakkan juga semua kode program berektensi .py hasil pengerjaan UTS ini pada akun GitHub masing-masing peserta ujian, lalu cantumkan link GitHub tersebut pada kelas.usu.ac.id.

1. Write a Python program that reads in a whole number and divides it by number of days this year and displays the result with eleven decimal places if they exist (rounded up).
2. Write a Python program that reads a number (today's test date) and prints the product of all the values from 1 to that number.
3. Write a Python program that reads in a number and prints the date that number of days from now in this format: Monday on 25 March 2024.
4. Write a Python class that calculates and stores the height and weight of a person in metric. The BMI is calculated using this formula:

   Weight/Height^2

   Weight is in pound and height is in feet.
   The class should have two properties named: Weight and Height
   The class should have two methods:
   - BMI_Value – This takes no arguments and returns a decimal value of the BMI;
   - Equals – This should override the equals method from the object class to compare the weight and height of two BMI objects. To override the equal method you should implement this method: __eq__(self, other) and return a boolean.
5. Write a program that reads in integer numbers from a text file named input.txt in the same directory as the executing program.
   Print the sum of the numbers with comma separators and three digits.

1. **Screenshot Jawaban dari Soal ke-1.**

soal1.py soal2.py soal3.py soal4.py soal5.py

D: > Kuliah > SEM 4 > PI > UTS > soal1.py > ...

```python
# Nama: Hanzel Oclihar Tjiam
# NIM: 221402064

# Soal 1

import datetime as datetime
import calendar


days_in_a_year = 365 + calendar.isleap(datetime.datetime.now().year)
x = int(input("Enter a whole number: "))


result = (x / days_in_a_year)

print('{0:8.11f}'.format(result))

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS D:\kuliah\SEM 4\PI\UTS> python -u "d:\Kuliah\SEM 4\PI\UTS\soal1.py"
Enter a whole number: 32775983
89551.86612021858
```

2. Screenshot Jawaban dari Soal ke-2.

soal1.py | soal2.py | soal3.py | soal4.py

D: > Kuliah > SEM 4 > PI > UTS > soal2.py > ...

```python
# Nama: Hanzel Oclihar Tjiam
# NIM: 221402064

# Soal 2

import datetime as datetime

day = int(input("Enter a number (today's test date): "))
result = 1

for i in range(1, day + 1):
    result *= i

print(result)
```

```
PS D:\kuliah\SEM 4\PI\UTS> python -u "d:\Kuliah\SEM 4\PI\UTS\soal2.py"
155112100433309859840000000
PS D:\kuliah\SEM 4\PI\UTS>
```

3. Screenshot Jawaban dari Soal ke-3.

soal1.py soal2.py soal3.py soal4.py

D: > Kuliah > SEM 4 > PI > UTS > soal3.py > ...

```python
# Nama: Hanzel Oclihar Tjiam
# NIM: 221402064

# Soal 3

import datetime as datetime

x = int(input("Enter a number: "))

now = datetime.datetime.now()

result = now + datetime.timedelta(days = x)

print(result.strftime("%A on %d %B %Y"))
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS D:\kuliah\SEM 4\PI\UTS> python -u "d:\Kuliah\SEM 4\PI\UTS\soal3.py"
Enter a number: 5
Saturday on 30 March 2024
```

4. Screenshot Jawaban dari Soal ke-4.

soal1.py | soal2.py | soal3.py | soal4.py | soal5.py | inpu

D: > Kuliah > SEM 4 > PI > UTS > soal4.py > Bmi

```python
# Nama: Hanzel Oclihar Tjiam
# NIM: 221402064

# Soal 4

class Bmi:
    def __init__(self, weight, height):
        weight = weight * 0.453592
        self.weight = weight

        height = height *  0.3048
        self.height = height

    def BMI_Value(self):
        return self.weight /( self.height ** 2 )

    def __eq__(self, other):
        if self.weight == other.weight and self.height == other.height:
            return True
        else:
            return False

test1 = Bmi(137, 6)
test2 = Bmi(150, 7)
test3 = Bmi(137, 6)

print(test1 == test2)
print(test1 == test3)

print(test1.BMI_Value())
print(test2.BMI_Value())
```

PROBLEMS | OUTPUT | DEBUG CONSOLE | TERMINAL | PORTS

```
PS D:\kuliah\SEM 4\PI\UTS> python -u "d:\Kuliah\SEM 4\PI\UTS\soal4.py"
False
True
18.58033446005163
14.94619485837611
```

5. Screenshot Jawaban dari Soal ke-5.

soal1.py soal2.py soal3.py soal4.py soal5.py input.txt

D: > Kuliah > SEM 4 > PI > UTS > soal5.py > ...

```python
# Nama: Hanzel Oclihar Tjiam
# NIM: 221402064

# Soal 5

import os

path = os.path.join(os.path.dirname(__file__), "input.txt")

f = open(path, "r")

result = 0

for x in f:
    result += int(x)

print("{:,}".format(result))


f.close()
```

soal1.py soal2.py soal3.py soal4.py soal5.py input.txt

D: > Kuliah > SEM 4 > PI > UTS > input.txt

```
10
20
123
12
12
25
164
1241
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS D:\kuliah\SEM 4\PI\UTS> python -u "d:\Kuliah\SEM 4\PI\UTS\soal5.py"
1,607
```