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KELAS : B

LAPORAN TUGAS MODUL 1 PAKTIKUM ALGORITMA DAN STRUKTUR DATA

1.

```
class cetakSiku():
    """Buat Fungsi cetakSiku (x)"""

def Siku(n):
    for i in range(n):
        for j in range(i+1):
            print("*", end="")
        print()
```

```
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 22:20:52) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
 RESTART: E:\kuliah\Kuliah Semester 4\Algorithm and Data Structural Praktikum\Babl_SoalMahasiswa_No1.py
>>> Siku(5)
*
**
***
****
*****
>>>
```

2.

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```
def kotak(a,b):
    for i in range(a):
        if i == 0 or i == a-1:
            print("@"*a)
        else:
            x = a - b
            print ("@"+" "*(a-2)+"@")
kotak(4,5)
```

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```
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 22:20:52) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
 RESTART: E:\kuliah\Kuliah Semester 4\Algorithm and Data Structural Praktikum\Babl_SoalMahasiswa_No1.py
>>> Siku(5)
*
**
***
****
*****
>>>
 RESTART: E:\kuliah\Kuliah Semester 4\Algorithm and Data Structural Praktikum\Babl_SoalMahasiswa_No2.py
@@@@
@  @
@  @
@@@@
>>>
```

3.

*Bab1_SoalMahasiswa_No3.PY - E:\kuliah\Kuliah Semester 4

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```
#No3 A
def jumlahHurufVokal(string):
    vok = 2
    x = "Surakarta"
    for car in string.lower():
        if car in x:
            vok += 1
    vokal = len(string)
    return(vokal,vok)

#No3 B
def jumlahHurufKonsonan(string):
    kon = 2
    x = "Surakarta"
    for car in string.lower():
        if car not in x:
            kon += 1
    konsonan = len(string)
    return(konsonan,kon)
```

Python 3.7.2 Shell

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```
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 22:20:52) [MSC v.1916 32 bit
(Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
 RESTART: E:\kuliah\Kuliah Semester 4\Algorithm and Data Structural Praktikum\Ba
bl_SoalMahasiswa_No3.PY
>>> jumlahHurufVokal("Surakarta")
(9, 4)
>>> jumlahHurufKonsonan("Surakarta")
(9, 5)
>>>
```

4.

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```
def Rerata(x):
        """Hitung Rata Rata dari List"""
        jml=0
        banyak=0
        for angka in x:
                jml+=angka
                banyak+=1
        return jml/banyak
print(Rerata([1,2,3,4,5]))
```

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```
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 22:20:52) [MSC v.1916 32 bit
(Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
 RESTART: E:\kuliah\Kuliah Semester 4\Algorithm and Data Structural Praktikum\Ba
bl_SoalMahasiswa_No4.py
3.0
>>>
```

5.

Bab1_SoalMahasiswa_No5.py - E:\kuliah\Kuliah Semester 4\Algorithm and Data Structural Praktikum\Bab1...

File Edit Format Run Options Window Help

```
from math import sqrt as sq
def apakahPrima(n):

        n = int(n)
        assert n >= 0
        primaKecil = [2, 3, 5 ,7, 11]
        bknPrimaKecil = [0, 1, 4, 6, 8, 9, 10]
        # mengecek bilangan prima selalu lebih besar dari 1
        if n in primaKecil:
                return True
        elif n in bknPrimaKecil:
                return False
        else:
                # mengecek faktor pembagi dengan operasi modulus
                for i in range(2,int(sq(n))+1):
                        if (n % i) == 0:
                                print (n,"bukan bilangan prima")
                                print ("karena", n,"dikalikan",n//n,"hasilnya adalah",n)
                                break
                else:
                        print (n,"adalah bilangan prima")
```

Python 3.7.2 Shell

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```
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 22:20:52) [M
(Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more inf
>>>
 RESTART: E:\kuliah\Kuliah Semester 4\Algorithm and Data Struct
bl_SoalMahasiswa_No5.py
>>> apakahPrima(17)
17 adalah bilangan prima
>>> apakahPrima(97)
97 adalah bilangan prima
>>> apakahPrima(123)
123 bukan bilangan prima
karena 123 dikalikan 1 hasilnya adalah 123
>>>
```

6.

Bab1_SoalMahasiswa_No6.py - E:\kuliah\Kuliah Semester 4\A

File Edit Format Run Options Window Help

```
from math import sqrt as sq
n=100
for i in range(2,50):
        print (i)
```

Python 3.7.2 Shell

File Edit Shell Debug Options Window Help

```
bl_SoalMahasiswa_No6.py
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
```

7.

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```
def faktorPrima(x) :
    a = []
    b = []
    hasil = 0
    bil = x
    prima =True
    for i in range(2,x):
        prima = True
        for u in range(2, i) :
            if i % u == 0 :
               prima = False
        if prima :
            a.append(i)
    idx = 0
    while bil > 1 :
        try:
            if (bil%a[idx]) == 0 :
                bil = hasil
                b.append(a[idx])
            else :
                idx = idx + 1
        except IndexError :
            break
    print (b)
```

File Edit Shell Debug Options Window Help

```
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 22:20:52) [MSC v.
(Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more informat
>>>
 RESTART: E:\kuliah\Kuliah Semester 4\Algorithm and Data Structural
bl_SoalMahasiswa_No7.py
>>> faktorPrima(10)
[2, 5]
>>> faktorPrima(120)
[2, 2, 2, 3, 5]
>>> faktorPrima(19)
[]
>>>
```

8.

```
def apakahTerkandung(h,k):
    return h.lower() in k.lower()
```

```
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 22:20:52) [MSC v.1916 32 bit
(Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
 RESTART: E:\kuliah\Kuliah Semester 4\Algorithm and Data Structural Praktikum\Ba
bl_SoalMahasiswa_No8.py
>>> apakahTerkandung('do','Indonesia tanah air beta')
True
>>> apakahTerkandung('pusaka','Indonesia tanah air beta')
False
>>>
```

9.

```
File  Edit  Format  Run  Options  Window  Help
def ProgCetakAngka(n):
    i = 0
    for i in range (n):
        if i % 3 == 2 and i % 5 == 4:
            print("Python UMS")
        elif i % 3 == 2:
            print("Python")
        elif i % 5 == 4:
            print("UMS")
        else:
            print(i + 1)
```

```
File  Edit  Shell  Debug  Options  Window  Help
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 22:20:52) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
 RESTART: E:\kuliah\Kuliah Semester 4\Algorithm and Data Structural Praktikum\Babl_SoalMahasiswa_No9.py
>>> ProgCetakAngka(100)
1
2
Python
4
UMS
Python
7
8
Python
UMS
11
Python
13
14
Python UMS
16
17
Python
19
UMS
Python
22
23
Python
UMS
26
Python
28
29
Python UMS
31
32
Python
34
UMS
```

10.

```
File  Edit  Format  Run  Options  Window  Help
def selesaikanABC(a,b,c):
    if a <= 0 and b <= 0 and c <= 0:
        print("Determinannya Positif. Persamaan Mempunyai akar Real")
    else:
        print("Determinannya Negatif. Persamaan tidak Mempunyai akar Real")

selesaikanABC(1,2,3)
```

```
File  Edit  Shell  Debug  Options  Window  Help
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 22:20:52) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
 RESTART: E:\kuliah\Kuliah Semester 4\Algorithm and Data Structural Praktikum\Babl_SoalMahasiswa_No10.py
Determinannya Positif. Persamaan Mempunyai akar Real
>>>
 RESTART: E:\kuliah\Kuliah Semester 4\Algorithm and Data Structural Praktikum\Babl_SoalMahasiswa_No10.py
Determinannya Negatif. Persamaan tidak Mempunyai akar Real
>>>
```

11.

```
import datetime;
def apakahKabisat(n):
    if (n % 4) == 0:
        if (n % 100) == 0:
            if (n % 400) == 0:
                print ("Tahun Kabisat")
            else:
                print("Bukan Tahun Kabisat")
        else:
            print("Tahun Kabisat")
    else:
        print("Bukan Tahun Kabisat")
```

```
File  Edit  Shell  Debug  Options  Window  Help
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 22:20:52) [MSC v.1916 32 bit (Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
 RESTART: E:\kuliah\Kuliah Semester 4\Algorithm and Data Structural Praktikum\Babl_SoalMahasiswa_No11.py
>>>
>>> apakahKabisat(1896)
Tahun Kabisat
>>> apakahKabisat(1897)
Bukan Tahun Kabisat
>>> apakahKabisat(1900)
Bukan Tahun Kabisat
>>> apakahKabisat(2000)
Tahun Kabisat
>>> apakahKabisat(2400)
Tahun Kabisat
>>>
```

12.

```
import random;

def Number(n):

    n = random.randint(0, 100)

    print("Permainan Tebak Angka")
    print("Ssya  Menyimpan Sebuah Angka bulat Antara 1 sampai 100. Coba tebak")

    kira2 = -1

    while kira2 != n:

        kira2 =  eval(input("Masukan Tebakan"))

        if kira2 == n:
            print("Ya. Anda Benar", n)
        elif kira2 > n:
            print("Itu Terlalu Besar. Coba Lagi")
        elif kira2 < n:
            print("Itu Terlalu Kecil. Coba Lagi")
```

```
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 22:20:52) [MSC v.1916 32 bit
(Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
 RESTART: E:\kuliah\Kuliah Semester 4\Algorithm and Data Structural Praktikum\Ba
bl_SoalMahasiswa_No12.py
Permainan Tebak Angka
Ssya  Menyimpan Sebuah Angka bulat Antara 1 sampai 100. Coba tebak
Masukan Tebakan1
Itu Terlalu Kecil. Coba Lagi
Masukan Tebakan75
Itu Terlalu Besar. Coba Lagi
Masukan Tebakan50
Itu Terlalu Besar. Coba Lagi
Masukan Tebakan40
Itu Terlalu Besar. Coba Lagi
Masukan Tebakan30
Itu Terlalu Besar. Coba Lagi
Masukan Tebakan20
Itu Terlalu Kecil. Coba Lagi
Masukan Tebakan21
Itu Terlalu Kecil. Coba Lagi
Masukan Tebakan22
Itu Terlalu Kecil. Coba Lagi
Masukan Tebakan23
Ya. Anda Benar 23
```

13.

```
File  Edit  Format  Run  Options  Window  Help
def katakan(bil):
    angka = ["","Satu ","Dua ","Tiga ","Empat ","Lima ","Enam ",
             "Tujuh ","Delapan ","Sembilan ","Sepuluh ","Sebelas "]
    hasil = ""
    n = int(bil)
    if n >= 0 and n <= 11:


        hasil = angka[n]
    elif n < 20:
        hasil = katakan(n-10) + " Belas "
    elif n < 100:
        hasil = katakan(n/10) + " Puluh " + katakan(n%10)
    elif n < 200:
        hasil = " Seratus " + katakan(n-100)
    elif n < 1000:
        hasil = katakan(n/100) + " Ratus " + katakan(n%100)
    elif n < 2000:
        hasil = " Seribu " + katakan(n-1000)
    elif n < 1000000:
        hasil = katakan(n/1000) + " Ribu " + katakan(n%1000)
    elif n < 1000000000:
        hasil = katakan(n/1000000) + " Juta " + katakan(n%1000000)
    elif n > 1000000000:
        hasil = 'Maaf, program tidak membaca angka lebih dari Satu Milyar'
    return hasil


a = 1
while a != 0:
    a = input(' Masukkan angka dari 1 sd 1.000.000.000: ')
    huruf = katakan(a)
    print(huruf +' Rupiah')
```

```
*Python 3.7.2 Shell*
File  Edit  Shell  Debug  Options  Window  Help
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 22:20:52) [MSC v.1916 32 bit
(Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
 RESTART: E:\kuliah\Kuliah Semester 4\Algorithm and Data Structural Praktikum\Ba
bl_SoalMahasiswa_No13.py
 Masukkan angka dari 1 sd 1.000.000.000: 3125750
Tiga  Juta  Seratus Dua  Puluh Lima  Ribu Tujuh  Ratus Lima  Puluh  Rupiah
 Masukkan angka dari 1 sd 1.000.000.000:
```

14.

Bab1_SoalMahasiswa_No14.py - E:/kuliah/Kuliah Semester 4/Algorithm and

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```
def formatRupiah(n):
    y = str(n)
    if len(y) <= 3 :
        return 'Rp ' + y
    else :
        p = y[-3:]
        q = y[:-3]
        return    formatRupiah(q) + '.' + p
        print ('Rp' +  (formatRupiah(q)) + '.' + p)
```

Python 3.7.2 Shell

File Edit Shell Debug Options Window Help

```
Python 3.7.2 (tags/v3.7.2:9a3ffc0492, Dec 23 2018, 22:20:52) [MSC v.1916 32 bit
(Intel)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
 RESTART: E:/kuliah/Kuliah Semester 4/Algorithm and Data Structural Praktikum/Ba
b1_SoalMahasiswa_No14.py
>>> formatRupiah(1500)
'Rp 1.500'
>>> formatRupiah(2560000)
'Rp 2.560.000'
>>>
```