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110_Modul3.py - C:\Users\Ramadhanu\Documents\Semester 4\110_Modul3.py (3.8.1)
File Edit Format Run Options Window Help
1 m1 = [[2,3],[4,5]]
2 m2 = [[10,20],[5,6]]
3
4 #1A
5 def cek(matriks):
6     jum = len(matriks)
7     hasil = ""
8     for x in matriks:
9         for i in x:
10            assert isinstance(i, int), "Harus Integer"
11            return True
12
13 #1B
14 def Ukuran(matriks):
15     return ("Ukuran Matriks = "+str(len(matriks))+ " x "+str(len(matriks[0])))
16
17 #1C
18 def Jumlah(matriks1,matriks2):
19     if Ukuran(matriks1) == Ukuran(matriks2):
20         for x in range(0, len(matriks1)):
21             for y in range(0, len(matriks1[0])):
22                 print(matriks1[x][y] + matriks2[x][y], ' '),
23                 print()
24         else:
25             print("Matriks Tidak Sesuai")
26
27 #1D
28 def Kali(matriks1,matriks2):
29     mat3 = []
30     if Ukuran(matriks1) == Ukuran(matriks2):
31         for x in range(0, len(matriks1)):
32             row = []
33             for y in range(0, len(matriks1[0])):
34                 total = 0
35                 for z in range(0, len(matriks1)):
36                     total = total + (matriks1[x][z] * matriks2[z][y])
37                 row.append(total)
38             mat3.append(row)
39             for x in range(0, len(mat3)):
40                 for y in range(0, len(mat3[0])):
41                     print(mat3[x][y], ' ')
42             print()
43         else:
44             print("Matriks Tidak Sesuai")
45
46 def determinan(matriks):
47     if len(matriks) == len(matriks[0]):
48         bil = [x for x in range(len(matriks))]
49         jum = 0
50         for i in range(len(matriks)):
51             total = 1
52             for x in range(len(matriks)):
53                 total *= matriks[x][bil[x]]
54             bil += [bil.pop(0)]
55             jum += total
56         bil2 = [x for x in range(len(matriks))]
57         bil.reverse()
58         jum2 = 0
59         for i in range(len(matriks)):
60             total2 = 1
61             for x in range(len(matriks)):
62                 total2 *= matriks[x][bil2[x]]
63             bil2 += [bil2.pop(0)]
64             jum2 += total2
65         print(total-jum2)
66     else:
67         print("Matriks Harus Bujursangkar")
68
69 #2A
70 def buatNol(m, n):
71     matriks = [[0 for x in range(m)] for i in range(n)]
72     print(matriks)
73
74 def buatNol2(m):
75     n = m
76     matriks = [[0 for x in range(m)] for i in range(n)]
77     print(matriks)
78
79 #2B
80 def buatIdentitas(m):
81     n = m
82     matriks = [[1 if j == i else 0 for j in range(m)] for i in range(n)]
83     print(matriks)
84
85 #3
86 class Node:
87     def __init__(self, data, next=None):
88         self.data = data
89         self.next = next
90
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Python 3.8.1 Shell
File Edit Shell Debug Options Window Help
Python 3.8.1 (tags/v3.8.1:1b293b6, Dec 18 2019, 22:39:24) [MSC v.1916 32 bit (Intel)] on win
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\Ramadhanu\Documents\Semester 4\110_Modul3.py =====
>>> cek(m1)
True
>>> Ukuran(m1)
'Ukuran Matriks = 2 x 2'
>>> Jumlah(m1, m2)
23
>>>
9
11
>>> Kali(m1, m2)
35
58
>>>
65
110
>>> determinan(m1)
2
>>> buatNol(2, 2)
[[0, 0], [0, 0]]
>>> buatNol2(4)
[[0, 0, 0, 0], [0, 0, 0, 0], [0, 0, 0, 0], [0, 0, 0, 0]]
>>> buatIdentitas(3)
[[1, 0, 0], [0, 1, 0], [0, 0, 1]]
>>> Node.cetak(a)
50
42
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>>>
Node.cari(a, 42)
Data ditemukan!
>>>
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File Edit Format Run Options Window Help
46 def determinan(matriks):
47     if len(matriks) == len(matriks[0]):
48         bil = [x for x in range(len(matriks))]
49         jum = 0
50         for i in range(len(matriks)):
51             total = 1
52             for x in range(len(matriks)):
53                 total *= matriks[x][bil[x]]
54             bil += [bil.pop(0)]
55             jum += total
56         bil2 = [x for x in range(len(matriks))]
57         bil.reverse()
58         jum2 = 0
59         for i in range(len(matriks)):
60             total2 = 1
61             for x in range(len(matriks)):
62                 total2 *= matriks[x][bil2[x]]
63             bil2 += [bil2.pop(0)]
64             jum2 += total2
65         print(total-jum2)
66     else:
67         print("Matriks Harus Bujursangkar")
68
69 #2A
70 def buatNol(m, n):
71     matriks = [[0 for x in range(m)] for i in range(n)]
72     print(matriks)
73
74 def buatNol2(m):
75     n = m
76     matriks = [[0 for x in range(m)] for i in range(n)]
77     print(matriks)
78
79 #2B
80 def buatIdentitas(m):
81     n = m
82     matriks = [[1 if j == i else 0 for j in range(m)] for i in range(n)]
83     print(matriks)
84
85 #3
86 class Node:
87     def __init__(self, data, next=None):
88         self.data = data
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>>>
===== RESTART: C:\Users\Ramadhanu\Documents\Semester 4\110_Modul3.py =====
>>> cek(m1)
True
>>> Ukuran(m1)
'Ukuran Matriks = 2 x 2'
>>> Jumlah(m1, m2)
23
>>>
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>>> Kali(m1, m2)
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>>>
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110
>>> determinan(m1)
2
>>> buatNol(2, 2)
[[0, 0], [0, 0]]
>>> buatNol2(4)
[[0, 0, 0, 0], [0, 0, 0, 0], [0, 0, 0, 0], [0, 0, 0, 0]]
>>> buatIdentitas(3)
[[1, 0, 0], [0, 1, 0], [0, 0, 1]]
>>> Node.cetak(a)
50
42
85
71
99
>>>
Node.cari(a, 42)
Data ditemukan!
>>>
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*110_Modul3.py - C:\Users\Ramadhanu\Documents\Semester 4\110_Modul3.py (3.8.1)*
File Edit Format Run Options Window Help
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87
88 class Node:
89     def __init__(self, data, next=None):
90         self.data = data
91         self.next = next
92     def setNext(self, newNext):
93         self.next = newNext
94     def cetak(head):
95         curr = head
96         while curr != None:
97             print(curr.data)
98             curr = curr.next
99     def cari(head, cari):
100         curr = head
101         while curr != None:
102             if curr.data == cari:
103                 print("Data ditemukan!")
104             else:
105                 print("Check data!")
106             curr = curr.next
107     def tambahDepan(head):
108         newNode = Node(1)
109         newNode.next = head
110         head = newNode
111         return head
112     def tambahAkhir(head):
113         curr = head
114         while curr is not None:
115             if curr.next == None:
116                 newNode = Node(25)
117                 curr.next = newNode
118                 return curr
119             else:
120                 pass
121             curr = curr.next
122         return curr
123     def tambah(head, posisi):
124         newNode = Node(8)
125         newNode.next = posisi.next
126         posisi.next = newNode
127         head.head = posisi
128         return head
129     def hapus(head, posisi):
130         curr = head
131         while curr != None:
132             if curr.data == posisi:
133                 curr = curr.next
134                 break
135             curr = curr.next
136         return curr
137
138 #4
139 class doubly_linked():
140     def __init__(self, Data, Next=None, Prev=None):
141         self.Data = Data
142         self.Next = Next
143         self.Prev = Prev
144     def setNext(self, newNext):
145         self.next = newNext
146     def mencetak(head):
147         curr = head
148         while curr != None:
149             print(curr.data)
150             if curr.Next == None:
151                 curr = curr
152                 break
153             else:
154                 curr = curr.Next
155         print("\n")
156         while curr != None:
157             print(curr.data)
158             curr = curr.Prev
159     def simulAwal(head):
160         newNode = doubly_linked(25)
161         newNode.Next = head
162         head.Prev = newNode
163         head = newNode
164         return head
165     def simulAkhir(head):
166         curr = head
167         while curr != None:
168             if curr.Next == None:
169                 newNode = doubly_linked(365)
170                 curr.Next = newNode
171                 newNode.Prev = curr
172                 return curr
173             else:
174                 pass
175             curr = curr.Next
176         return curr
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