

The screenshot shows a Windows desktop with a file explorer window on the left and a Python 3.6.5 Shell window on the right. The file explorer window displays the contents of a folder named 'Garanan', showing a file named 'Modul4_1.py'. The Python 3.6.5 Shell window shows the execution of the script. The script defines a list 'Daftar' of student names and IDs, and a function 'cekRota' that checks if a name is in the list. The shell window shows the execution of the script, which results in a 'NameError: name 'x' is not defined' error. The error message is displayed in the shell window, indicating that the variable 'x' is not defined within the function scope.

```
Python 3.6.5 Shell
File Edit Shell Debug Options Window Help
>>> type "copyright", "credits" or "license()" for more information.
>>>
RESTART: C:\Users/asus-k401lb\AppData\Local\Programs\Python\Python36\Modul4_Binse.py
>>> A=[2,3,5,6,6,6,8,9,9,11,12,13,13,14]
>>> binde(A,6)
>>> print(x)
Traceback (most recent call last):
  File "<pythonshell>", line 1, in <module>
    print(x)
NameError: name 'x' is not defined
>>>
RESTART: C:\Users/asus-k401lb\AppData\Local\Programs\Python\Python36\Modul4_Binse.py
>>> A=[2,3,5,6,6,6,8,9,9,11,12,13,13,14]
>>> binde(A,6)
>>> print(x)
Traceback (most recent call last):
  File "<pythonshell>", line 1, in <module>
    print(x)
NameError: name 'x' is not defined
>>>
RESTART: C:\Users/asus-k401lb\AppData\Local\Programs\Python\Python36\Modul4_Binse.py
>>> A=[2,3,5,6,6,6,8,9,9,11,12,13,13,14]
>>> binde(A,6)
Traceback (most recent call last):
  File "<pythonshell>", line 1, in <module>
    binde(A,6)
  File "C:\Users/asus-k401lb\AppData\Local\Programs\Python\Python36\Modul4_Binse.py", line 7,
in binde
    if kumpulan[mid] == target:
KeyboardInterrupt

>>>
----- RESTART: D:\Garanan\Modul4_1.py -----
>>> cariKota('Hansen')
[6, 8]
>>> cariuku()
['Ika', 'Budi'] adalah mahasiswa dengan uang saku terkecil dengan nominal 230000
>>>
```

3.

```

Modul4_1.py - D:\Garapan\Modul4_1.py (3.6.5)
File Edit Format Run Options Window Help
Python 3.6.5 Shell
File Edit Shell Debug Options Window Help
>>> A=[2,3,5,6,6,6,6,8,9,11,12,13,13,14]
>>> binSe(A,6)
>>> print(x)
Traceback (most recent call last):
  File "<pyshell#2>", line 1, in <module>
    print(x)
NameError: name 'x' is not defined
>>>
RESTART: C:\Users\asus-k401lb\AppData\Local\Programa\Python\Python36\Modul4_Binse.py
>>> A=[2,3,5,6,6,6,6,8,9,11,12,13,13,14]
>>> binSe(A,6)
>>> print(x)
Traceback (most recent call last):
  File "<pyshell#3>", line 1, in <module>
    print(x)
NameError: name 'x' is not defined
>>>
RESTART: C:\Users\asus-k401lb\AppData\Local\Programa\Python\Python36\Modul4_Binse.py
>>> A=[2,3,5,6,6,6,6,8,9,11,12,13,13,14]
>>> binSe(A,6)
>>> print(x)
Traceback (most recent call last):
  File "<pyshell#4>", line 1, in <module>
    binSe(A,6)
  File "C:\Users\asus-k401lb\AppData\Local\Programa\Python\Python36\Modul4_Binse.py", line 7, in binSe
    if kumpulan[mid] == target:
KeyboardInterrupt
>>>
RESTART: D:\Garapan\Modul4_1.py =====
>>> cariKota('Klaten')
[6, 8]
>>> cariusk()
['Ika', 'Budi'] adalah mahasiswa dengan uang saku terkecil dengan nominal 230000
>>> cariusk_2()
Ika, NIM 10. Tinggal di Sukoharjo. Uang saku Rp 230000 tiap bulannya
Budi, NIM 51. Tinggal di Sragen. Uang saku Rp 230000 tiap bulannya
>>>

```

4.

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Modul4_1.py - D:\Garapan\Modul4_1.py (3.6.5)
File Edit Format Run Options Window Help
Python 3.6.5 Shell
File Edit Shell Debug Options Window Help
RESTART: C:\Users\asus-k401lb\AppData\Local\Programa\Python\Python36\Modul4_Binse.py
>>> A=[2,3,5,6,6,6,6,8,9,11,12,13,13,14]
>>> binSe(A,6)
>>> print(x)
Traceback (most recent call last):
  File "<pyshell#5>", line 1, in <module>
    print(x)
NameError: name 'x' is not defined
>>>
RESTART: C:\Users\asus-k401lb\AppData\Local\Programa\Python\Python36\Modul4_Binse.py
>>> A=[2,3,5,6,6,6,6,8,9,11,12,13,13,14]
>>> binSe(A,6)
>>> print(x)
Traceback (most recent call last):
  File "<pyshell#6>", line 1, in <module>
    binSe(A,6)
  File "C:\Users\asus-k401lb\AppData\Local\Programa\Python\Python36\Modul4_Binse.py", line 7, in binSe
    if kumpulan[mid] == target:
KeyboardInterrupt
>>>
RESTART: D:\Garapan\Modul4_1.py =====
>>> cariKota('Klaten')
[6, 8]
>>> cariusk()
['Ika', 'Budi'] adalah mahasiswa dengan uang saku terkecil dengan nominal 230000
>>> cariusk_2()
Ika, NIM 10. Tinggal di Sukoharjo. Uang saku Rp 230000 tiap bulannya
Budi, NIM 51. Tinggal di Sragen. Uang saku Rp 230000 tiap bulannya
>>> kurang()
Ika, NIM 10. Tinggal di Sukoharjo. Uang saku Rp 230000 tiap bulannya
Budi, NIM 51. Tinggal di Sragen. Uang saku Rp 230000 tiap bulannya
Chandee, NIM 10. Tinggal di Sukoharjo. Uang saku Rp 230000 tiap bulannya
Eka, NIM 4. Tinggal di Boyolali. Uang saku Rp 240000 tiap bulannya
Deni, NIM 13. Tinggal di Klaten. Uang saku Rp 245000 tiap bulannya
Datto, NIM 23. Tinggal di Klaten. Uang saku Rp 245000 tiap bulannya
>>>

```

5.

```

Modul4_5.py - D:\Garapan\Modul4\Modul4_5.py (3.6.5)
File Edit Shell Debug Options Window Help

current_pos += 1
node.next = prev.next
prev.next = node
return self.head
def deleteNode(self, position):
    if self.head == None:
        return
    temp = self.head
    if position == 0:
        self.head = temp.next
        temp = None
    for i in range(position):
        temp = temp.next
        if temp is None:
            break
    if temp is None:
        return
    if temp.next is None:
        return
    prev.next = temp.next
    temp = None

def search(self, x):
    current = self.head
    while current != None:
        if current.data == x:
            return "True"
        current = current.next
    return "False"
def display(self):
    current = self.head
    while current is not None:
        print(current.data, end = ' ')
        current = current.next

Python 3.6.5 Shell
File Edit Shell Debug Options Window Help

>>>
===== RESTART: D:\Garapan\Modul4_1.py =====
>>> cariKota('Klaten')
[6, 8]
>>> cariUsk()
['Ika', 'Budi'] adalah mahasiswa dengan uang saku terkecil dengan nominal 230000
Ika, NIM 10. Tinggal di Sukoharjo. Uang saku Rp 230000 tiap bulannya
Budi, NIM 51. Tinggal di Sragen. Uang saku Rp 230000 tiap bulannya
>>> kurang()
Ika, NIM 10. Tinggal di Sukoharjo. Uang saku Rp 230000 tiap bulannya
Budi, NIM 51. Tinggal di Sragen. Uang saku Rp 230000 tiap bulannya
Chandra, NIM 18. Tinggal di Surakarta. Uang saku Rp 235000 tiap bulannya
Eka, NIM 4. Tinggal di Boyolali. Uang saku Rp 240000 tiap bulannya
Deni, NIM 13. Tinggal di Klaten. Uang saku Rp 245000 tiap bulannya
Galuh, NIM 5. Tinggal di Wonogiri. Uang saku Rp 245000 tiap bulannya
Janto, NIM 23. Tinggal di Klaten. Uang saku Rp 245000 tiap bulannya
>>>
===== RESTART: D:\Garapan\Modul4\Modul4_5.py =====
19 2 14 12 22 21 9 False
False
19 2 14 12 22 1 9
>>>
===== RESTART: D:\Garapan\Modul4\Modul4_5.py =====
>>> llist = LinkedList()
>>> llist.pushAw(21)
>>> llist.pushAw(22)
>>> llist.pushAw(12)
>>> llist.pushAw(14)
>>> llist.pushAw(2)
>>> llist.pushAw(19)
>>> llist.pushAw(9)
<_main__._Node object at 0x000000219DCDB65C0>
>>> print(llist.search(21))
True
>>> print(llist.search(29))
False
>>>
Ln: 71 Col: 4

```

6.

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Modul4_Binse.py - D:\Garapan\Modul4\Modul4_Binse.py (3.6.5)
File Edit Shell Debug Options Window Help

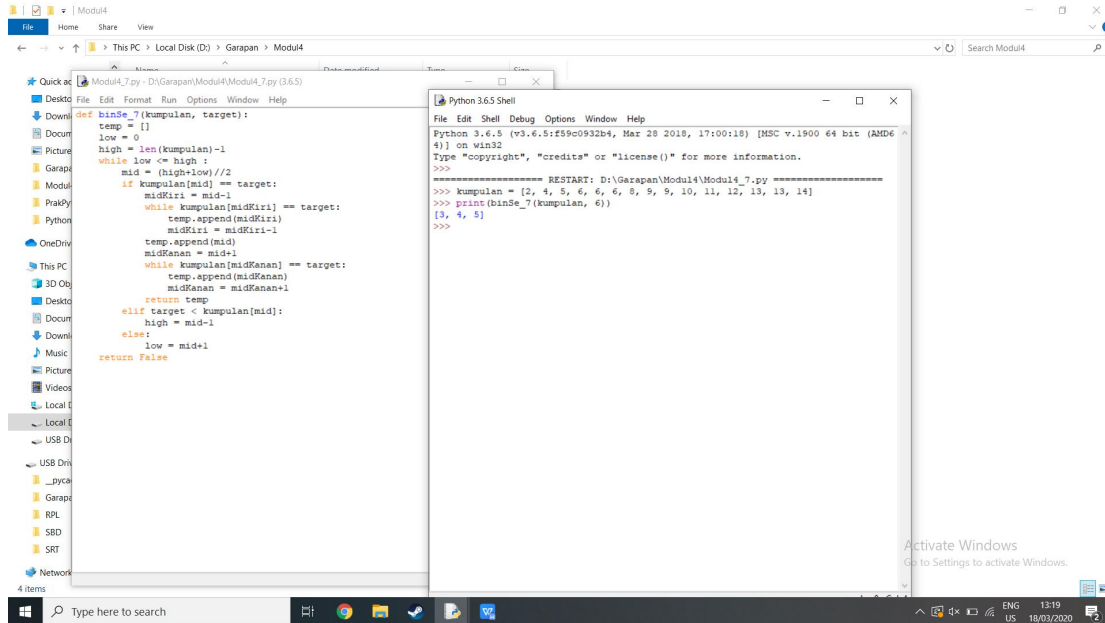
def binSe(kumpulan, target):
    low = 0
    high = len(kumpulan) - 1
    while low <= high:
        mid = (high+low) // 2
        if kumpulan[mid] == target:
            return mid
        elif target < kumpulan[mid]:
            high = mid - 1
        else:
            low = mid + 1
    return False

Python 3.6.5 Shell
File Edit Shell Debug Options Window Help

>>>
===== RESTART: D:\Garapan\Modul4_5.py =====
19 2 14 12 22 21 9 False
False
19 2 14 12 22 1 9
>>>
===== RESTART: D:\Garapan\Modul4\Modul4_5.py =====
>>> llist = LinkedList()
>>> llist.pushAw(21)
>>> llist.pushAw(22)
>>> llist.pushAw(12)
>>> llist.pushAw(14)
>>> llist.pushAw(2)
>>> llist.pushAw(19)
>>> llist.pushAw(9)
<_main__._Node object at 0x000000219DCDB65C0>
>>> print(llist.search(21))
True
>>> print(llist.search(29))
False
>>>
===== RESTART: D:\Garapan\Modul4\Modul4_Binse.py =====
>>> A=[2,3,5,6,6,6,8,9,9,11,12,13,13,14]
>>> binSe(A,6)
Traceback (most recent call last):
  File "<pyshell#23>", line 1, in <module>
    binSe(A,6)
  File "D:\Garapan\Modul4\Modul4_Binse.py", line 8, in binSe
    x.append(mid)
KeyboardInterrupt
>>>
===== RESTART: D:\Garapan\Modul4\Modul4_Binse.py =====
>>> A=[2,3,5,6,6,6,8,9,9,11,12,13,13,14]
>>> binSe(A,6)
4
>>>
Ln: 86 Col: 4

```

7.



8. Karena menggunakan konsep Big-O. Dimana yang dipakai adalah rumus $O(\log n)$ dengan rincian $1 = 1, 2 = 2, 4 = 3, 10 = 4, 100 = 7, 1000 = 10$. Di mana log berasal dari pangkat log berbasis 2. Dengan begitu dapat mengetahui jumlah maksimal tebakan.

Untuk pola sendiri:

apabila ingin menebak angka 70

$a = \text{nilai tebakan pertama} // 2$

tebakan selanjutnya = nilai tebakan "lebih dari" + a

jika hasil tebakan selanjutnya "kurang dari", maka nilai yang dipakai tetap nilai lebih dari sebelumnya

$a = a // 2$

Simulasi

tebakan ke 1: 50 (mengambil nilai tengah) jawaban= "lebih dari itu"

tebakan ke 2: 75 (dari 50 + 25) jawaban = "kurang dari itu"

tebakan ke 3: 62 (dari 50 + 12) jawaban = "lebih dari itu"

tebakan ke 4: 68 (dari 62 + 6) jawaban = "lebih dari itu"

tebakan ke 5: 71 (dari 68 + 3) jawaban = "kurang dari itu"

tebakan ke 6: 69 (dari 68 + 1) jawaban = "lebih dari itu"

tebakan ke 7: antara 71 dan 69 hanya ada 1 angka = 70!!!