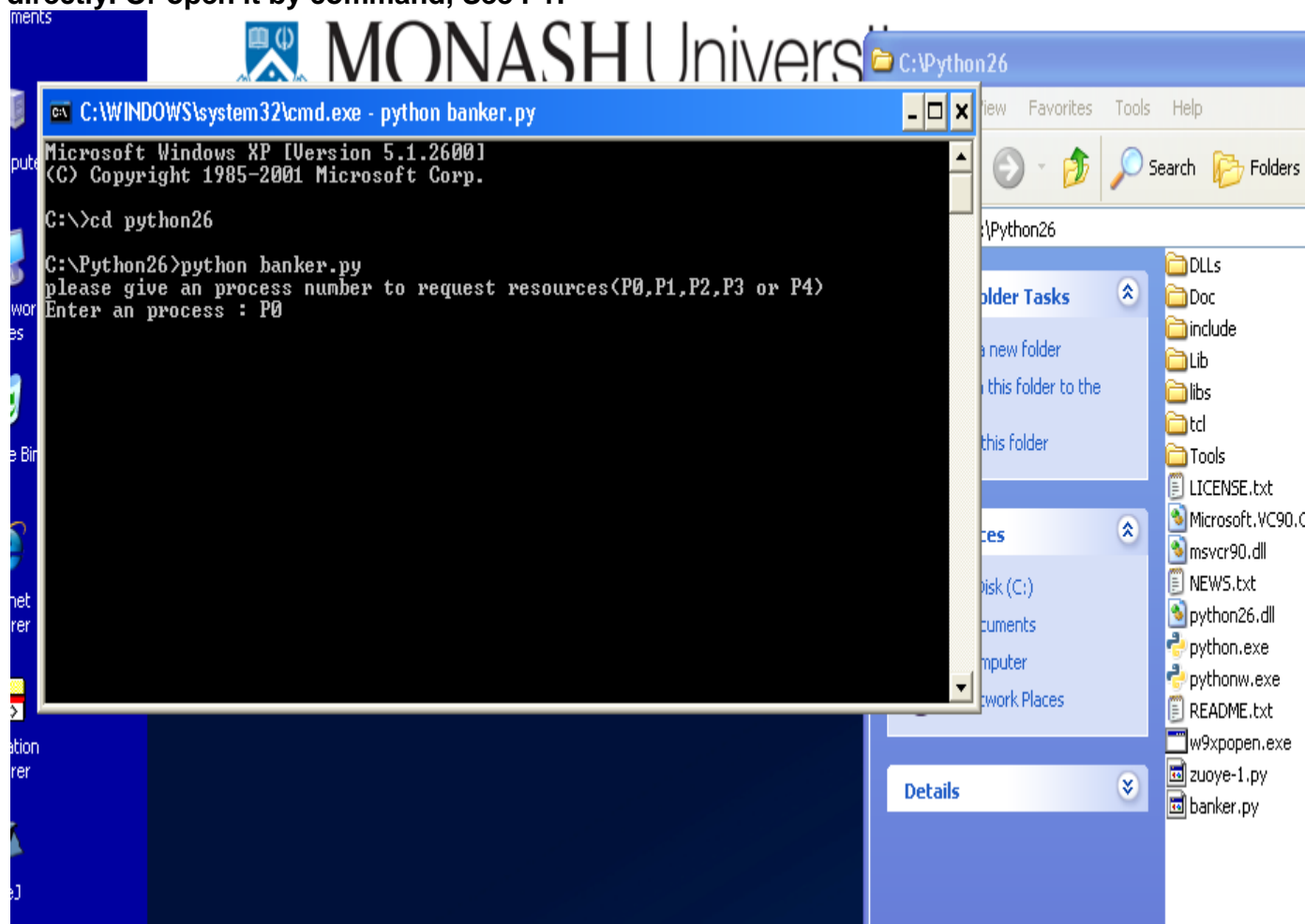


Attention:

- (1) Invalid input will cause error of the execution, so pay attention to your input before deciding which option you want
- (2) Remember: you must put the file (all the related files) under your python working path (in the same path or folder with python.exe)

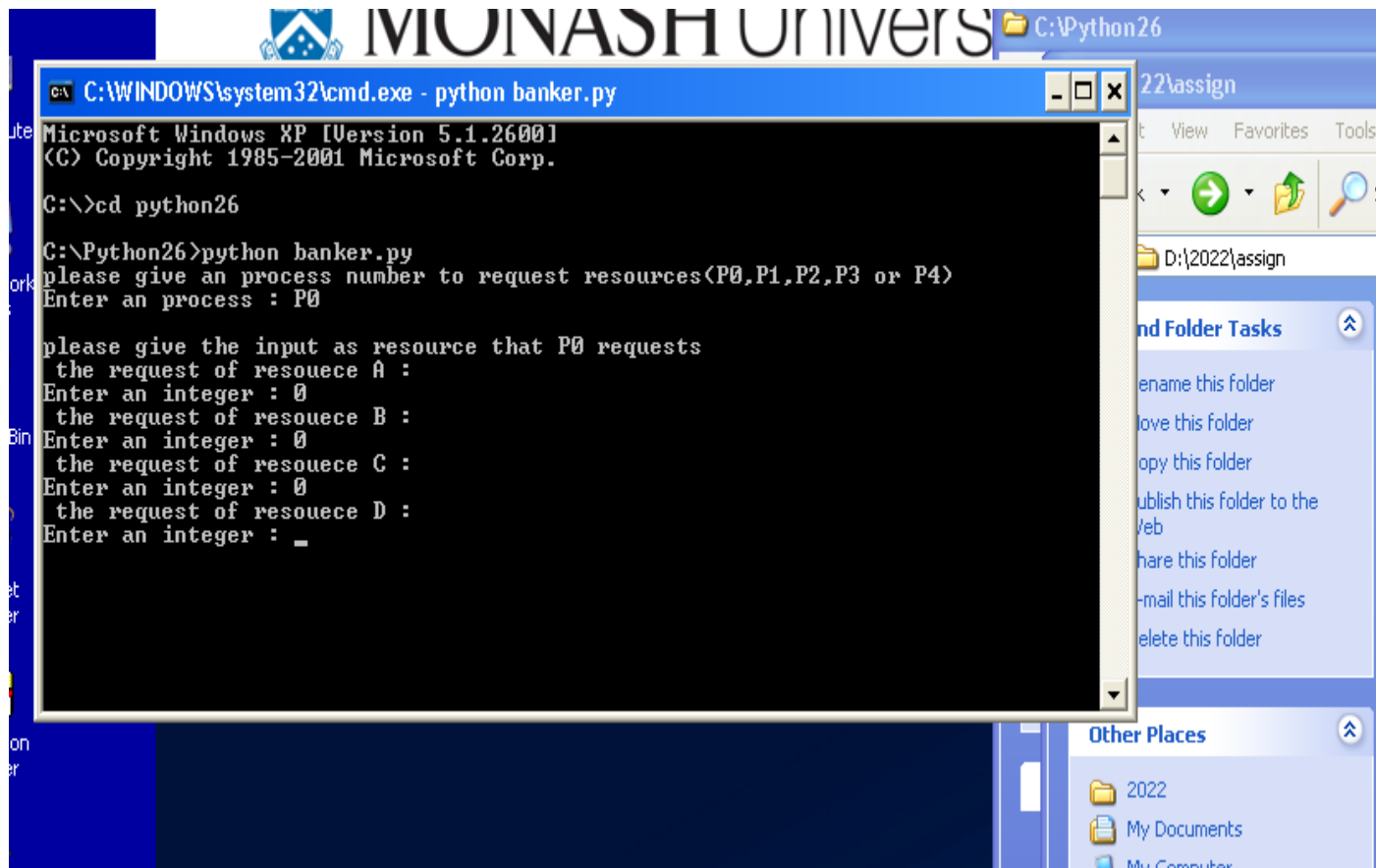
About banker.py

- (1) If your operation is Windows, you can double click the file to active it to run directly. Or open it by command, See P1:



- (2) If your operational system is Linux, you can open a shell and type in to:
>>>python assign1.py

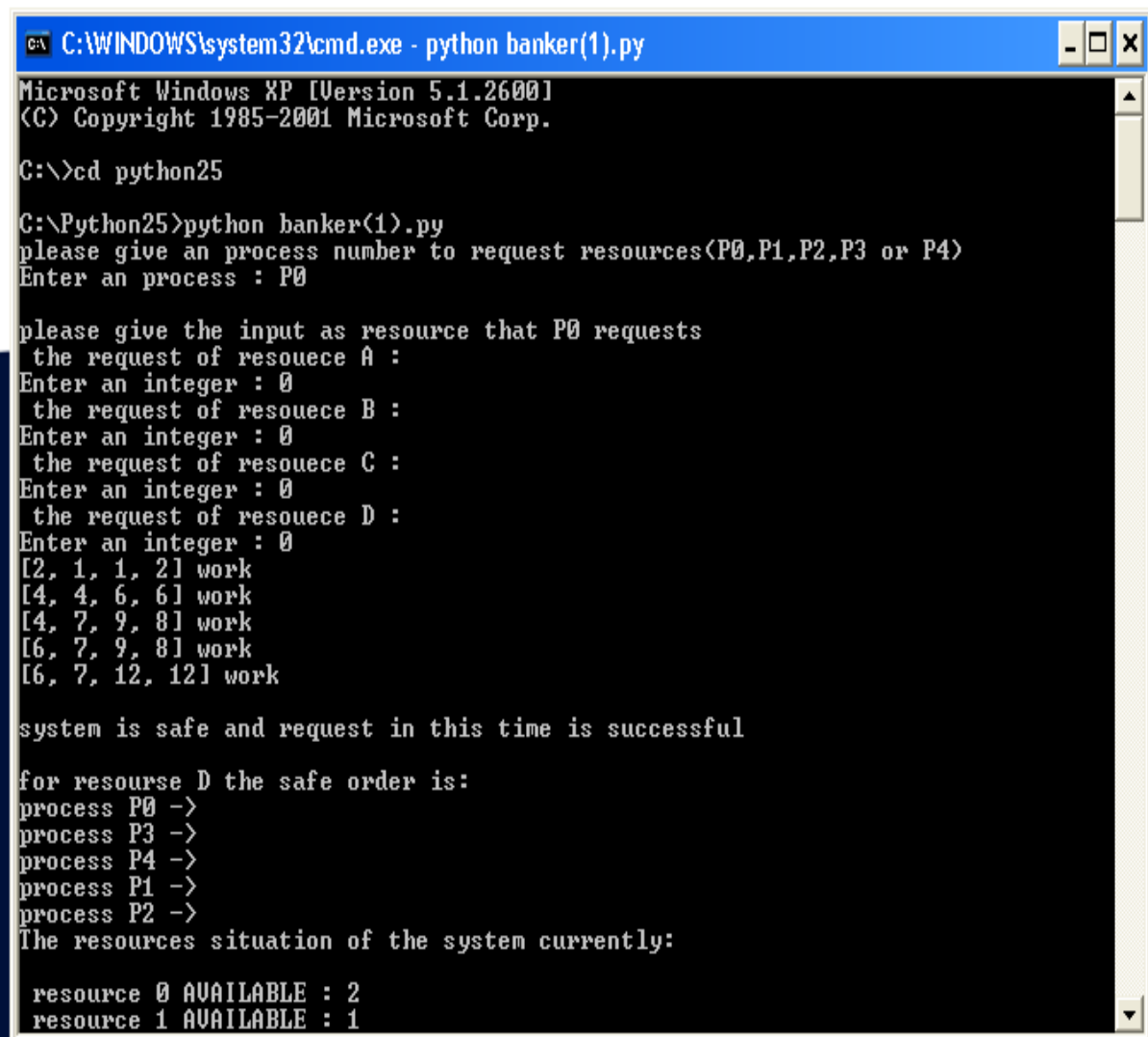
For each process you choose, you must type the amount of each resource requested one by one,
See P2 :



Once you finish typing the set of inputs, you can get all the information about the situation after this request, including Need, Allocation and Available Matrix. See P3:

For question 3:

The result can be seen as:



```
C:\WINDOWS\system32\cmd.exe - python banker(1).py
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\>cd python25

C:\Python25>python banker(1).py
please give an process number to request resources(P0,P1,P2,P3 or P4)
Enter an process : P0

please give the input as resource that P0 requests
the request of resouece A :
Enter an integer : 0
the request of resouece B :
Enter an integer : 0
the request of resouece C :
Enter an integer : 0
the request of resouece D :
Enter an integer : 0
[2, 1, 1, 2] work
[4, 4, 6, 6] work
[4, 7, 9, 8] work
[6, 7, 9, 8] work
[6, 7, 12, 12] work

system is safe and request in this time is successful

for resource D the safe order is:
process P0 ->
process P3 ->
process P4 ->
process P1 ->
process P2 ->
The resources situation of the system currently:

resource 0 AVAILABLE : 2
resource 1 AVAILABLE : 1
```

For question 5:

The result can be seen as:

```
C:\WINDOWS\system32\cmd.exe - python banker(1).py

continue or not,press 'Y' to continue, press 'N' to quit the demonstration:
Enter N or Y: Y
please give an process number to request resources(P0,P1,P2,P3 or P4)
Enter an process : P2

please give the input as resource that P2 requests
the request of resouece A :
Enter an integer : 0
the request of resouece B :
Enter an integer : 1
the request of resouece C :
Enter an integer : 0
the request of resouece D :
Enter an integer : 0
[2, 0, 1, 2] work
[4, 3, 6, 6] work
[4, 6, 9, 8] work

system is not safe!!! the request in this time is not successful!!!

The resources situation of the system currently:

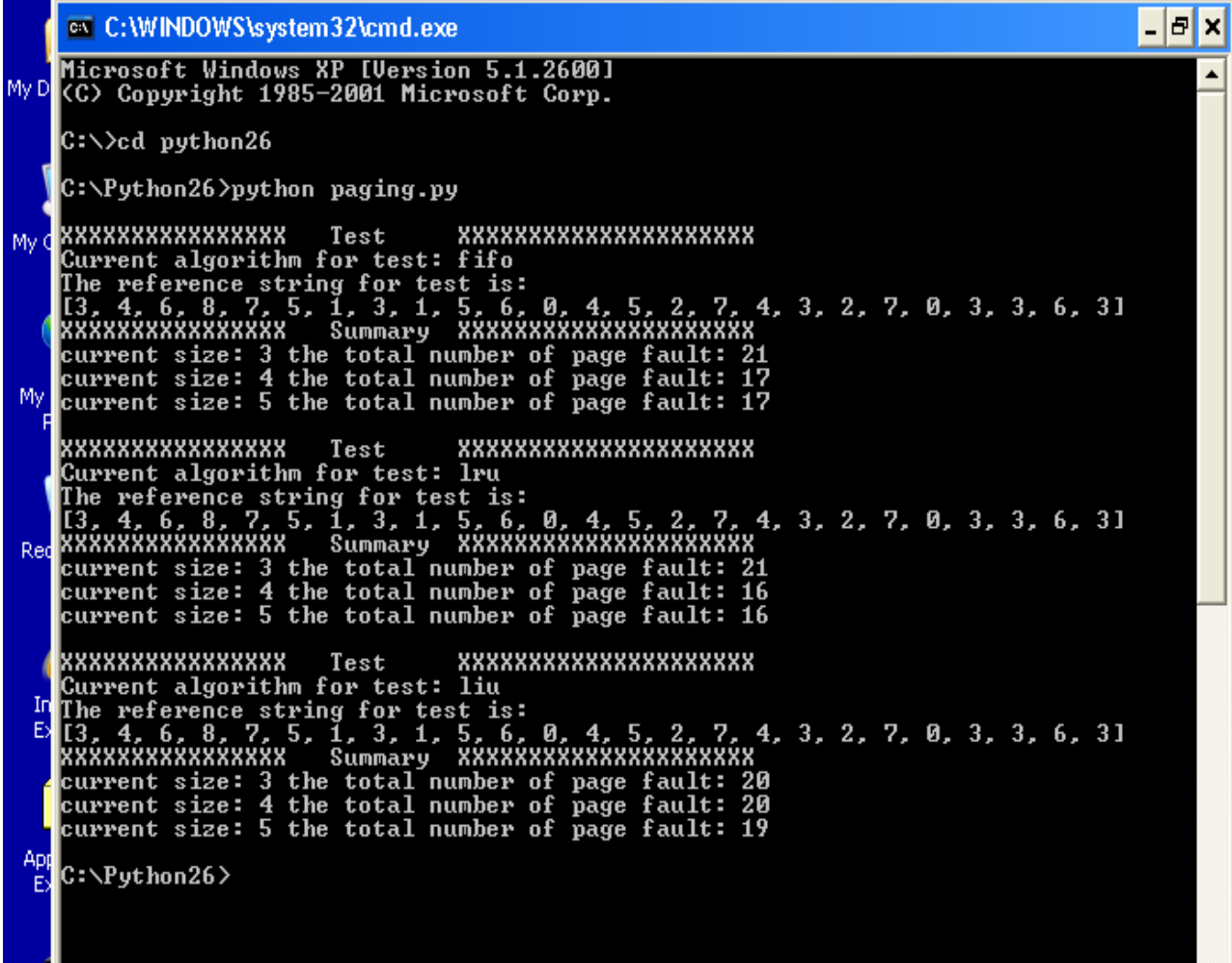
resource 0 AVAILABLE : 2
resource 1 AVAILABLE : 1
resource 2 AVAILABLE : 0
resource 3 AVAILABLE : 0

The need of the current system respectively:

P0 NEED [0, 0, 0, 0]
P1 NEED [0, 7, 5, 0]
P2 NEED [6, 6, 2, 2]
P3 NEED [2, 0, 0, 2]
P4 NEED [0, 3, 2, 0]
```

About replacement algorithm:

You can get all the information by run paging.py (you must make sure all the related files (fifo.py, lru.py, liu.py, paging.py, PRA.py) are keeping together before execution.)



```
C:\WINDOWS\system32\cmd.exe
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

C:\>cd python26
C:\Python26>python paging.py

XXXXXXXXXXXXXXXXXXXX Test XXXXXXXXXXXXXXXXXXXXXXXX
Current algorithm for test: fifo
The reference string for test is:
[3, 4, 6, 8, 7, 5, 1, 3, 1, 5, 6, 0, 4, 5, 2, 7, 4, 3, 2, 7, 0, 3, 3, 6, 3]
XXXXXXXXXXXXXXXXXXXX Summary XXXXXXXXXXXXXXXXXXXXXXXX
current size: 3 the total number of page fault: 21
current size: 4 the total number of page fault: 17
current size: 5 the total number of page fault: 17

XXXXXXXXXXXXXXXXXXXX Test XXXXXXXXXXXXXXXXXXXXXXXX
Current algorithm for test: lru
The reference string for test is:
[3, 4, 6, 8, 7, 5, 1, 3, 1, 5, 6, 0, 4, 5, 2, 7, 4, 3, 2, 7, 0, 3, 3, 6, 3]
XXXXXXXXXXXXXXXXXXXX Summary XXXXXXXXXXXXXXXXXXXXXXXX
current size: 3 the total number of page fault: 21
current size: 4 the total number of page fault: 16
current size: 5 the total number of page fault: 16

XXXXXXXXXXXXXXXXXXXX Test XXXXXXXXXXXXXXXXXXXXXXXX
Current algorithm for test: liu
The reference string for test is:
[3, 4, 6, 8, 7, 5, 1, 3, 1, 5, 6, 0, 4, 5, 2, 7, 4, 3, 2, 7, 0, 3, 3, 6, 3]
XXXXXXXXXXXXXXXXXXXX Summary XXXXXXXXXXXXXXXXXXXXXXXX
current size: 3 the total number of page fault: 20
current size: 4 the total number of page fault: 20
current size: 5 the total number of page fault: 19

C:\Python26>
```