

Project I

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Office Hour: 15:00 - 18:00 Monday

13:00 - 18:00 Wednesday

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Notice

- ▶ Programming language : Python 3 (<https://www.python.org/downloads/>)
 - ▶ socket
 - ▶ JSON
 - ▶ Threading
- ▶ Due date => 5/19

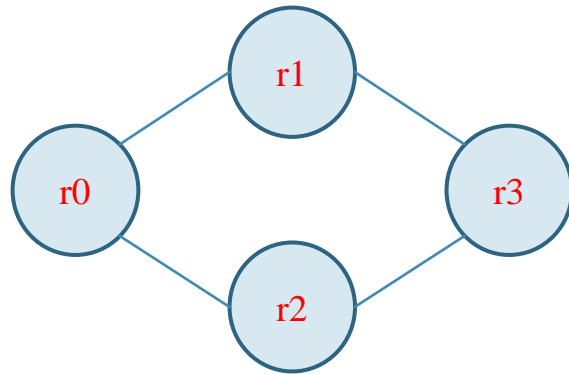
Project 1

1.1 Network topology construction

1.2 Socket implementation

1.1 Network topology construction

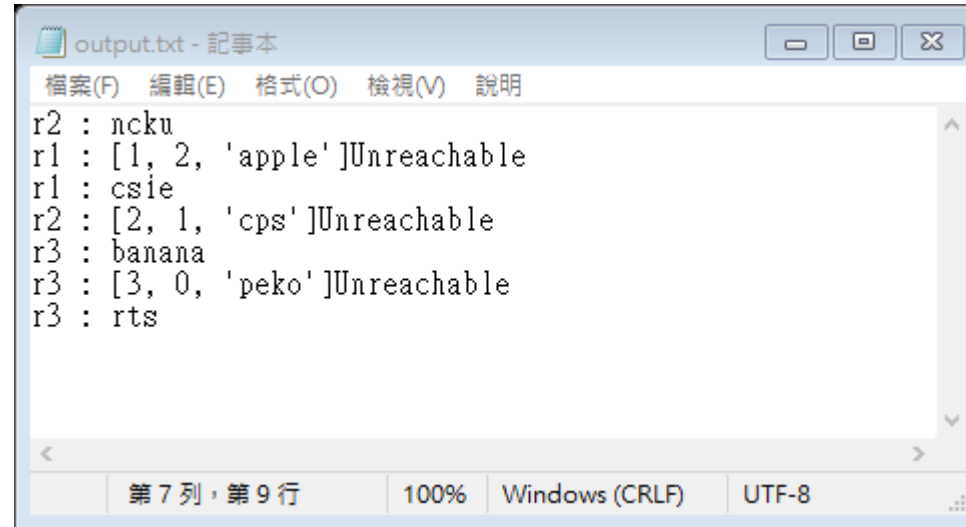
- ▶ Given an network topology and input with a **JSON** format
- ▶ Input : input.json, open file to read the data
- ▶ Network topology input format :
 - ▶ [“source”, [“destination1”, “destination2”...]]
- ▶ Data Packet input format:
 - ▶ [source(routerID), destination(routerID), data]



```
{  
  "network": [  
    ["r0", ["r1", "r2"]],  
    ["r1", ["r0", "r3"]],  
    ["r2", ["r0", "r3"]],  
    ["r3", ["r1", "r2"]]  
  ],  
  "input" : [  
    [  
      [0, 2, "ncku"],  
      [0, 1, "csie"]  
    ],  
    [  
      [1, 2, "apple"],  
      [1, 3, "banana"]  
    ],  
    [  
      [2, 1, "cps"],  
      [2, 3, "rts"]  
    ],  
    [  
      [3, 0, "peko"]  
    ]  
  ]  
}
```

1.2 Socket implementation

- ▶ Implement sockets for data transmission
- ▶ Output : output.txt, write you result to “output.txt” file
- ▶ Output format :
 - ▶ “destination” : data
 - ▶ “destination” : packet Unreachable
 - ▶ ...
- ▶ Demo needed



```
output.txt - 記事本
檔案(F) 編輯(E) 格式(O) 檢視(V) 說明
r2 : ncku
r1 : [1, 2, 'apple']Unreachable
r1 : csie
r2 : [2, 1, 'cps']Unreachable
r3 : banana
r3 : [3, 0, 'peko']Unreachable
r3 : rts
第 7 列, 第 9 行 100% Windows (CRLF) UTF-8
```