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| Title | API Format | | |
| Author | 譚宇淇 | | |
| Version | 1.1 | Date | 20181023 |

* Read File

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| Function | read\_checkins\_file |
| Description | 讀取checkins\_missing.txt，並回傳結果 |
| Parameter | (  condition(String) : default is None，會回傳所有User資料  "unknown\_user"，會回傳所有未知User資料  "known\_user"，會回傳所有已知User資料  ) |
| Return | 範例  如果checkins\_missing.txt內容是以下 :  user1\_name: 5, 3fd66200, 16, 42ec1480, 23, 45548f85  user1\_name: 2, 42ec1480, 6, 3fd66200  user2\_name: 12, 3fd66200  user2\_name: 2, 42ec1480, 16, 42ec1480, 18, 3fd66200  user2\_name: 13, 3fd66200  則Return結果為  A dictionary of user data  {  "user1\_name" : [  [  {"Time": 5, "location": "3fd66200"},  {"Time": 16, "location": "42ec1480"},  {"Time": 23, "location": "45548f85"}  ] ,  [  {"Time": 2, "location": "42ec1480"},  {"Time": 6, "location": "3fd66200"}  ]  ] ,  "user2\_name" : [  [  {"Time": 12, "location": "3fd66200"}  ] ,  [  {"Time": 2, "location": "42ec1480"},  {"Time": 16, "location": "42ec1480"},  {"Time": 18, "location": "3fd66200"}  ] ,  [  {"Time": 13, "location": "3fd66200"}  ]  ] ,  ……  } |

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| Function | read\_candidate\_file |
| Description | 讀取candidate\_100\_places.txt，並回傳結果 |
| Parameter | N/A |
| Return | 範例  如果candidate\_100\_places.txt內容是以下 :  3fd66200  42ec1480  45548f85  則Return結果為  [  "3fd66200",  "42ec1480",  "45548f85",  ……  ] |

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| Function | read\_known\_location |
| Description | 取得已知地點(非candidate)，並用list傳回 |
| Parameter | N/A |
| Return | 則Return結果為  [  "3fd66200",  "42ec1480",  "45548f85",  ……  ] |

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| Function | read\_location\_file |
| Description | 讀取loc\_id\_info.txt，並回傳結果 |
| Parameter | N/A |
| Return | 範例  如果loc\_id\_info.txt內容是以下 :  3fd66200f964a52000e71ee3 40.733596 -74.003139 Jazz Club US  3fd66200f964a52000e81ee3 40.758102 -73.975734 Gym US  3fd66200f964a52000ea1ee3 40.732456 -74.003755 Indian Restaurant US  則Return結果為  {  "3fd66200f964a52000e71ee3": {  "country": "US",  "latitude": "40.733596",  "longitude": "-74.003139",  "type": "Jazz Club"  },  "3fd66200f964a52000e81ee3": {  "country": "US",  "latitude": "40.758102",  "longitude": "-73.975734",  "type": "Gym"  },  "3fd66200f964a52000ea1ee3": {  "country": "US",  "latitude": "40.732456",  "longitude": "-74.003755",  "type": "Indian Restaurant"  },  ……  } |

* Output Format

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| Function | recommend |
| Description | 呼叫XXX\_ recommendation，回傳每個有"?" User的Location排序 |
| Parameter | N/A |
| Return | 總共有100位User  每位User有100 Location的排序，由Rank1開始排序  {    "user1\_name": [  "rank1\_location",  "rank2\_location",  "rank3\_location",  "rank4\_location",  ……  ],  " user2\_name ": {  "rank1\_location",  "rank2\_location",  "rank3\_location",  "rank4\_location",  ……  },  " user3\_name ": {  "rank1\_location",  "rank2\_location",  "rank3\_location",  "rank4\_location",  ……  },  ……  } |