

AI Project Implementation Guide

檔案說明

- Al_game.exe 主程式
- Sample.exe 測試程式 預設組別為 1
- Sample2.exe 測試程式 預設組別為 2
- Sample.cpp / Sample.py
- STcpClient.h / STcpClient.py

Where to code -- C++

- Write your AI in Sample.cpp function GetStep
- Change Sample.cpp to Team_yourTeamnumber.cpp

```
1
2 #include "STcpClient.h"
3
4 #include <iostream>
5
6 std::vector<std::vector<int>> GetStep(std::vector<std::vector<int>>& board, bool is_black,
7     std::vector<std::vector<int>> step;
8
9     return step;
10 }
11
12 int main() {
13     int id_package;
14     std::vector<std::vector<int>> board, step;
15     bool is_black;
16     while (true) {
17         if (GetBoard(id_package, board, is_black))
18             break;
19
20         step = GetStep(board, is_black);
21         SendStep(id_package, step);
22     }
23 }
24
```

Where to code -- python

- Write your AI in Sample.py function GetStep
- Change Sample.py to Team_yourTeamnumber.py

```
1
2 import STcpClient
3
4 '''
5     輪到此程式移動棋子
6     board : 棋盤狀態(list of list), board[i][j] = i row, j column 棋
7             0 = 空、1 = 黑、2 = 白
8     is_black : True 表示本程式是黑子、False 表示為白子
9
10    return step
11    step : list of list, step = [(r1, c1), (r2, c2) ...]
12           r1, c1 表示要移動的棋子座標 (row, column) (zero-base)
13           ri, ci (i>1) 表示該棋子移動路徑
14    '''
15 def GetStep(board, is_black):
16     # fill your program here
17     pass
18
19 while(True):
20     (stop_program, id_package, board, is_black) = STcpClient.GetBoa
21     if(stop_program):
22         break
23
24     listStep = GetStep(board, is_black)
25     STcpClient.SendStep(id_package, listStep)
26
```

How to execute

- 0. 打包你的程式成exe檔
 - 在編譯前請依使用語言修改以下檔案成自己的組別
 - STcpClient.py
 - STcpClient.h

```
8  '''
9      *    請將 idTeam 改成組別    *
10  '''
11  idTeam = 1
```

```
15  /*
16      *    請將 idTeam 改成組別    *
17  */
18  int idTeam = 2;
```

- 編譯成exe

How to execute

- 1. 執行AI_game.exe

How to execute

- 2. 輸入第一組組別號碼
- 號碼需與程式內組別號碼相同
- STcpClient.py

```
8  '''
9      *    請將 idTeam 改成組別    *
10  '''
11  idTeam = 1
```

STcpClient.h

```
15  /*
16      請將 idTeam 改成組別
17  */
18  int idTeam = 2;
```

How to execute

- 3. 輸入第一組執行檔路徑
 - Example : C:\xxxx\xxxxxx\xxxxx\xxxxx.exe

How to execute

- 4.輸入第二組組別號碼
- 5.輸入第二組執行檔路徑
 - Example : C:\xxxx\xxxxxx\xxxxx\xxxxx.exe

執行範例

```
input Team1 teamnumber(int)1
input Path to Team1exe(example: C:\yourpath\Sample.exe)C:\
Your Path \AI_GameProject\Sample.exe
input Team2 teamnumber(int)2
input Path to Team2exe(example: C:\yourpath\Sample.exe)C:\
Your Path \AI_GameProject\Sample2.exe

round 1:  black:[team 1]  white:[team 2]

-----START GAME-----

step 1 ,it's turn to 1
~  0  1  2  3  4  5  6  7
0  -  X  -  -  -  -  -  -
1  -  X  -  -  -  -  -  0
2  X  -  X  -  -  -  0  -
3  -  X  -  -  -  0  -  0
4  X  -  X  -  -  -  0  -
5  -  X  -  -  -  0  -  0
6  X  -  -  -  -  -  0  -
7  -  -  -  -  -  -  -  0
```

繳交格式

- 需繳交的有:
 - 你的程式 : Team_yourTeamnumber.py & STcpClient.py
/ Team_yourTeamnumber.cpp & STcpClient.h
 - 程式執行檔 : Team_yourTeamnumber.exe
 - Example : Team_1.exe / Team_25.exe
 - Report
- Python 程式檔轉執行檔教學
 - <https://kknews.cc/zh-tw/tech/4ybyrv.html>

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