```
[syj110u@daemon[11:17am]~/409510049>gdb Avg.out
```
→ 用gdb debugger

```
GNU gdb (GDB) 11.1 [GDB v11.1 for FreeBSD]
Copyright (C) 2021 Free Software Foundation, Inc.
License GPLv3+: GNU GPL version 3 or later <http://gnu.org/licenses/gpl.html>
This is free software: you are free to change and redistribute it.
There is NO WARRANTY, to the extent permitted by law.
Type "show copying" and "show warranty" for details.
This GDB was configured as "x86_64-portbld-freebsd12.2".
Type "show configuration" for configuration details.
For bug reporting instructions, please see:
<https://www.gnu.org/software/gdb/bugs/>.
Find the GDB manual and other documentation resources online at:
    <http://www.gnu.org/software/gdb/documentation/>.

For help, type "help".
Type "apropos word" to search for commands related to "word"...
Reading symbols from Avg.out...
(gdb) b main
```
→ 設中斷美在main

```
Breakpoint 1 at 0x40108f: file Avg.cpp, line 20.
(gdb) r
Starting program: /.amd_mnt/cs1/host/csdata/home/under/u110/syj110u/409510049/Av
g.out
warning: File "/usr/local/lib/gcc10/libstdc++.so.6.0.28-gdb.py" auto-loading has
 been declined by your `auto-load safe-path' set to "$debugdir:$datadir/auto-loa
```

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d".
To enable execution of this file add
        add-auto-load-safe-path /usr/local/lib/gcc10/libstdc++.so.6.0.28-gdb.py
line to your configuration file "/cshome/under/u110/syj110u/.config/gdb/gdbinit"
.
To completely disable this security protection add
        set auto-load safe-path /
line to your configuration file "/cshome/under/u110/syj110u/.config/gdb/gdbinit"
.
For more information about this security protection see the
"Auto-loading safe path" section in the GDB manual.  E.g., run from the shell:
        info "(gdb)Auto-loading safe path"

Breakpoint 1, main () at Avg.cpp:20
20          double number=0;  //有幾筆資料
(gdb)
```

```
Breakpoint 1, main () at Avg.cpp:20
20          double number=0;   //有幾筆資料
[(gdb) b 25
Breakpoint 2 at 0x4010b9: file Avg.cpp, line 26.
[(gdb) c
Continuing.

Breakpoint 2, main () at Avg.cpp:26
26          string grade;   //成績 (string)
[(gdb) p sum
$1 = 0
[(gdb) p length
$2 = 0
[(gdb) p avg
$3 = 0
[(gdb) n
28          checkfloat=0;
[(gdb) n
29              std::cout << "Please input your score :" << endl;
[(gdb) n
Please input your score :
30              std::cin >> grade;   //輸入字串
[(gdb) n
[23
```

設中斷點在第 25 行

印出變數 sum

單步執行 (不進入函式)

輸入成績

```
● ● ●                  📁 sunyujun — ssh syj110u@daemon.cs.ccu.edu.tw — 80×24

[(gdb) n
 34                          number++;
[(gdb) p number
 $5 = 0                                      幾秒++後
[(gdb) n
 35                          length=grade.length();      //計算字串長度
[(gdb) p number
 $6 = 1
[(gdb) n
 36                          for(long j=0;j<length;j++){
[(gdb) p length
 $7 = 2                      ──→ 印出 grade 的字串長度
```