

System Programming Bonus

Fishing Game

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[Outline

- Objective
- Assignments & Requirements
- Grading Policies
- Turn In

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Objective

[Objective]

- To be familiar with **signals** in the **Unix-like** OS



Assignments & Requirements

[Assignments]

- You need to implement a simple **fishing** game
- Use a **signal** to control the fishing rod
- Use the **alarm signal** to control time

[Assignments (cont'd)]

■ Signals

- **Ctrl + c**: reel in or cast the fishing rod
- **Ctrl + z**: exit the game

■ Rules

- After casting the fishing rod, the fish will eat the bait **during 3~5 seconds randomly** (放釣竿後魚將在隨機3~5秒內吃餌)
- The player needs to reel in the fishing pole **in 3 seconds** after the fish eats the bait (玩家必須在魚吃到餌後三秒內拉起釣竿)
- Otherwise, the fish will escape (不然魚會逃脫)



[Assignments (cont'd)

■ Situation 1 –No fish biting

```
Fishing rod is ready!
```

```
^C
```

```
Cast the fishing rod
```

```
Bait into water, waiting fish...
```

```
^C
```

```
Pull the fishing rod
```

```
Fishing rod is ready!
```


Assignments (cont'd)

■ Situation 2 –Catch fish

Fishing rod is ready!

^C

Cast the fishing rod

Bait into water, waiting fish...

A fish is biting,pull the fishing rod

^C

Pull the fishing rod

Catch a Fish!!

Totally caught fishes : 1

Fishing rod is ready!

Assignments (cont'd)

■ Situation 3 –Fish escape

Fishing rod is ready!

^C

Cast the fishing rod

Bait into water, waiting fish...

A fish is biting,pull the fishing rod

The fish was escaped!!

^C

Pull the fishing rod

The bait was eaten!!

Fishing rod is ready!

Assignments (cont'd)

■ Game Exit

- Show the totally number of caught fishes in the game before exiting.

```
Fishing rod is ready!
```

```
^Z
```

```
Totally caught fishes: 1
```


[Assignments (cont'd)]

■ APIs

- `signal()`
- `alarm()`
- `pause()`
- `srand()`
- `rand()`

[Requirements]


- The final executable program should be named 'fishing'
- You are responsible for writing a **make file** suitable for your whole program
- The test environment will be '**linux.cs.ccu.edu.tw**'
- The document of your program will be named '**readme.doc**'

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Grading Policies

[Grading Policies]

- You have to give me
 - **Report** (5 pages) including 20%
 - Main issues and proposed solutions
 - The function diagram
 - Your thoughts after this assignment
 - **Program files** including
 - Source code 70%
 - Makefile 10%



Turn In

[Turn In]

- The E-course System
 - <http://ecourse.ccu.edu.tw/>
- Upload **zip** to “[HW2]Fishing Game”
 - Report
 - Program files
 - Makefile
- Due date
 - **2017/05/24 23:59:59**
 - **NO DELAY!!**