

Exam Prep Warmup #3: Sounds Fishy

Problem Description

A fish-finder is a device used by anglers to find fish in a lake. If the fish-finder finds a fish, it will sound an alarm. It uses depth readings to determine whether to sound an alarm. For our purposes, the fish-finder will decide that a fish is swimming past if:

- there are four consecutive depth readings which form a strictly increasing sequence (such as 3 4 7 9) (which we will call “Fish Rising”), or
- there are four consecutive depth readings which form a strictly decreasing sequence (such as 9 6 5 2) (which we will call “Fish Diving”), or
- there are four consecutive depth readings which are identical (which we will call “Constant Depth”).

All other readings will be considered random noise or debris, which we will call “No Fish.”

Your task is to read a sequence of depth readings and report on whether fish are present or not.

Input Specification

The input will be four positive integers, representing the depth readings. Each integer will be on its own line of input. If invalid input is received, simply repeat the prompt.

Output Specification

The output will be one of four possibilities:

- If the depth readings are increasing, then the output should be **Fish Rising**
- If the depth readings are decreasing, then the output should be **Fish Diving**
- If the depth readings are identical, then the output should be **Fish At Constant Depth**
- Otherwise, the output should be **No Fish**

Sample Input/Output Session – 1 (user input is in bold)

```
Reading 1? 30
Reading 2? 10
Reading 3? 20
Reading 4? 20
No Fish
```

Sample Input/Output Session – 2 (user input is in **bold**)

Reading 1? **1**
Reading 2? **10**
Reading 3? **12**
Reading 4? **13**
Fish Rising

Sample Input/Output Session – 3 (user input is in **bold**)

Reading 1? **bananas**
Reading 1? **10**
Reading 2? **10**
Reading 3? **10**
Reading 4? **10**
Fish At Constant Depth