

## Underwater Research Facility Solver's Guide

### Crossword Puzzle

Puzzle is located in the drafts of Marine Biologist email.

All answers relate to the **human body**, **human emotions**, or the **specimen profiles**.

Answer Key for crossword

ACROSS

1. Nose
2. Love
3. Pelican

DOWN

1. Nails
2. Alien
3. Breath

Password is **aiisalone**

### Algorithm Puzzle

The idea is to count sum of values of all even coins and odd coins, compare the two values. The player that makes the first move can always make sure that the other player is never able to choose an even coin if sum of even coins is higher. Similarly, he/she can make sure that the other player is never able to choose an odd coin if sum of odd coins is higher.

*Example*

18 20 15 30 10 14

*Sum of odd coins =  $18 + 15 + 10 = 43$*

*Sum of even coins =  $20 + 30 + 14 = 64$ .*

*Since the sum of even coins is more, the first player decides to collect all even index coins. He first picks 14, now the other player can only pick a coin (10 or 18). Whichever is picked the other player, the first player again gets an opportunity to pick an even coin and block all even coins.*