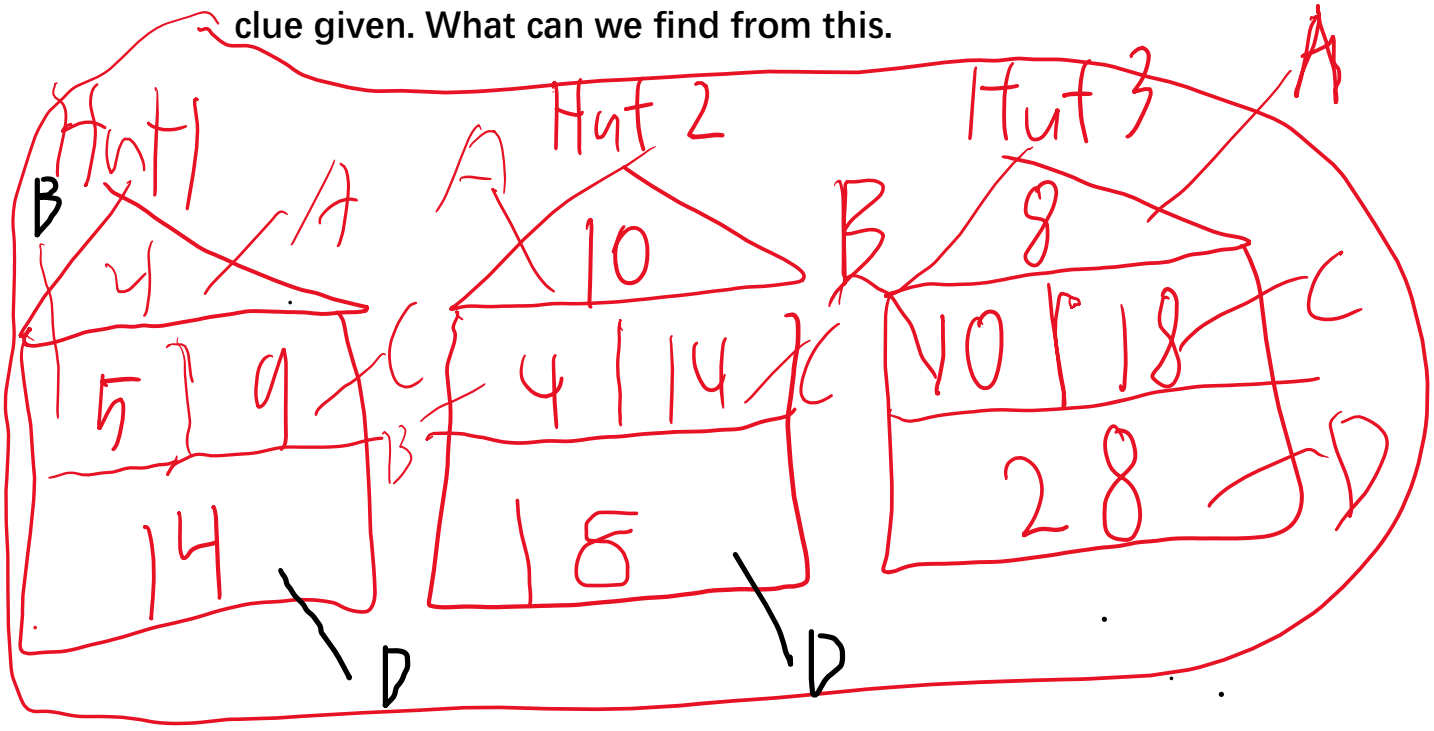
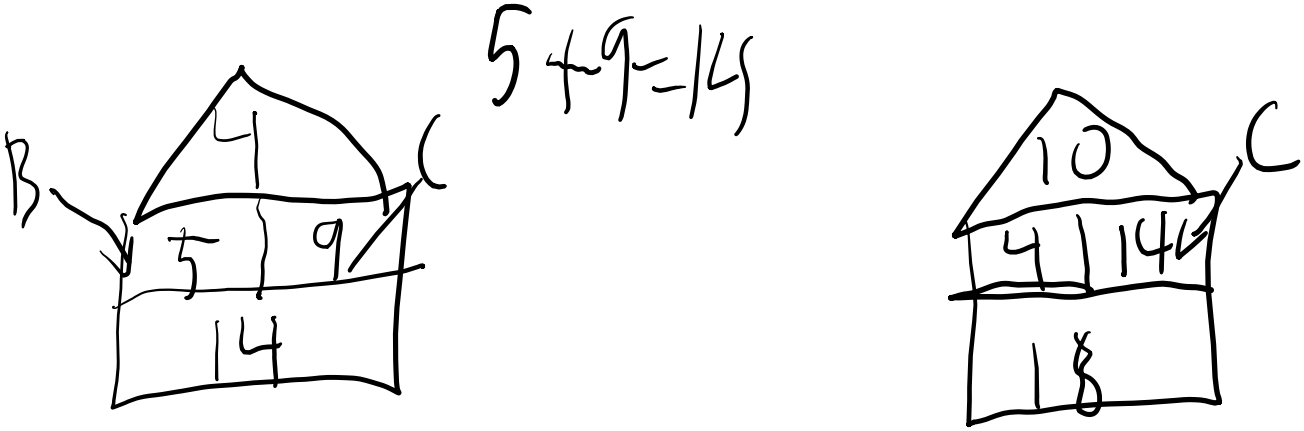
Beach Huts

By：Tengfei

Introduction: In this project, my task is to find the pattern of numbers in a “beach house’ shape and try to work out their numbers are filled in it. Like this below. Lets use A, B,C and D to represent the four spaces in the beach hut like below. This is the clue given. What can we find from this.

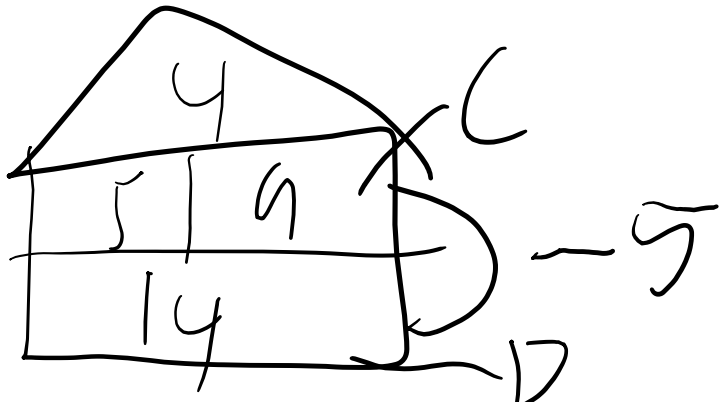


Analysis-Patterns: We can see the sum of B and C of the first beach hut is the value of C of the second beach hut. This pattern goes on and on. Eg:

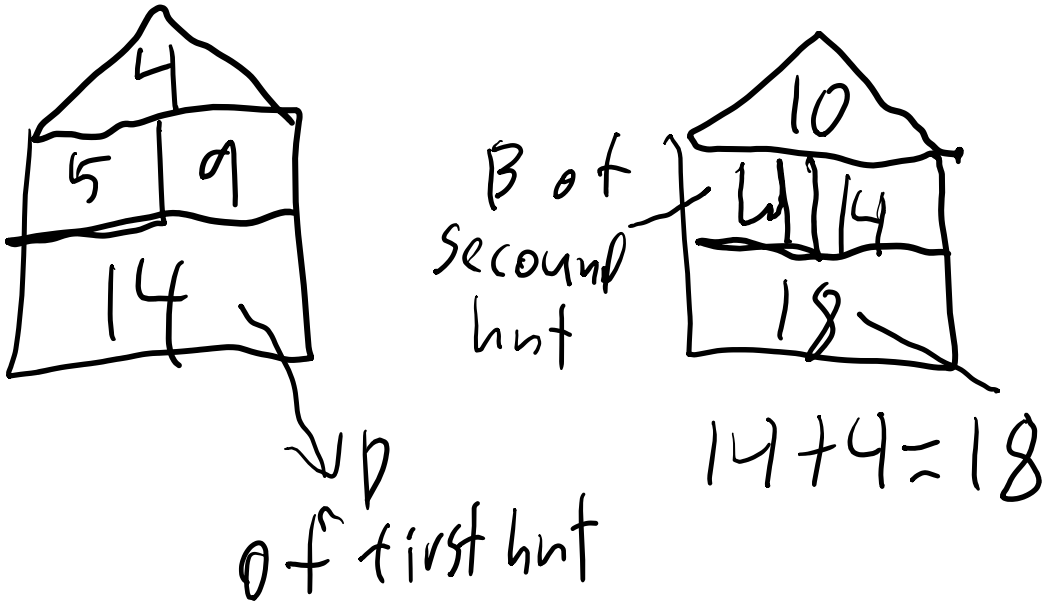


Now we worked out how to get C of the next hut. (Which is C= $B + C\ of\ first\ house$) How about the other numbers of the hut.

To get B, you minus D by C in each separate hut.



To get D of the next hut, you add D of the first hut to B of the second hut. Eg:



We can also see that B+C=D in every separate hut. Like the first hut=5+9=14. That is what I found out

To get A, you minus C by D.(EG.9−5=4 The first hut and 14−4=10 for the second hut).

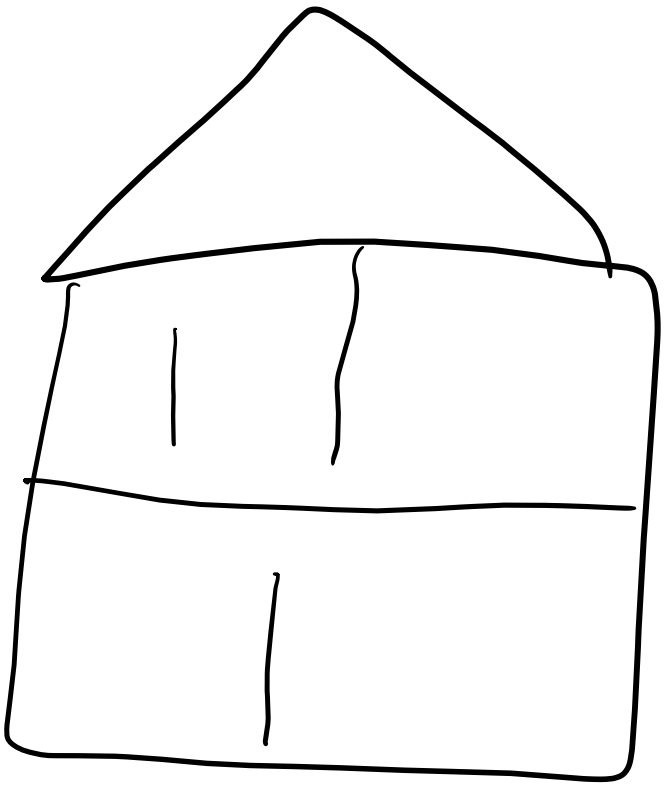
At last to get B, you minus D by C in each separate hut.

Now, we know the patterns between huts, lets answer some questions.

1:

- If you know any pair of numbers from a beach hut, can you work out the other two numbers?

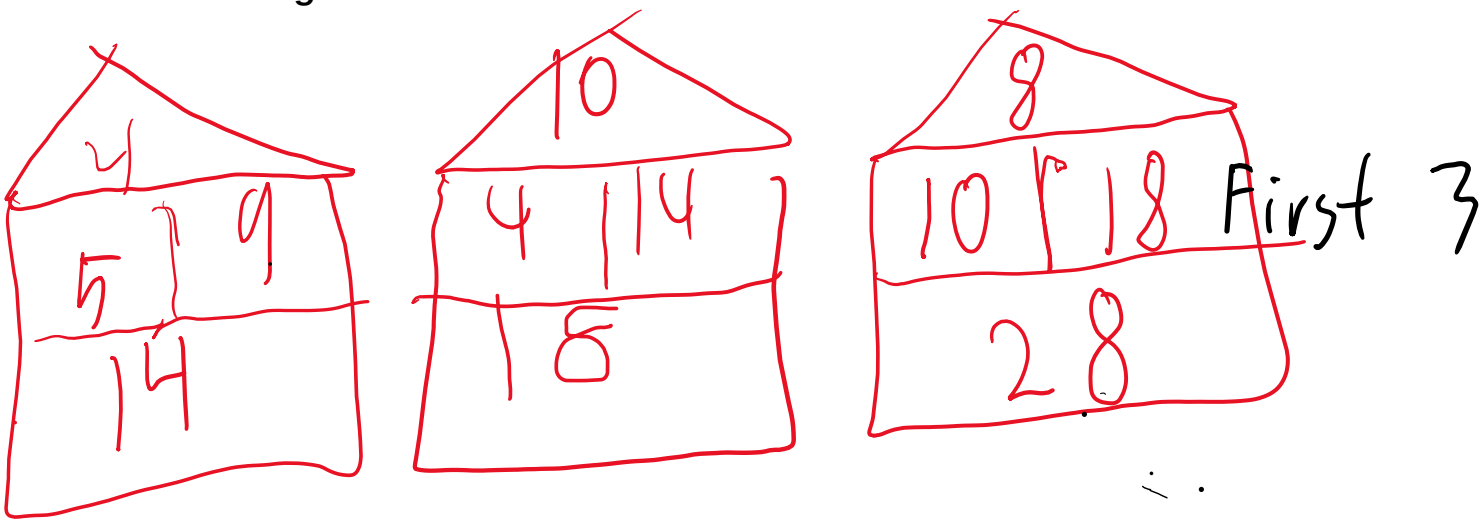
No, we can't. Here is an example. According to the patterns found before, we can't find number A,



2 If we know the numbers in one hut, can you work out the numbers of other huts after it, can you work out the numbers of other huts beside it?

Of course, according to the patterns we found we can get all the numbers after it as long as we know what is in the first house.

clue given. What can we find from this.



Summary: Working through this, I think my ability of solving sequences and observing patterns have improved a lot. Next time, I will try to write down further patterns to prove my idea. This time, I didn't work out the Nth term. This caused me to be unable to answer some questions.