


Problem 1 (Chicken nuggets)

McDonald's is selling chicken nuggets in boxes of **6, 9 or 20**.

Create a program, that will help McDonald's staff to give to a customer **N** nuggets with **minimal number of boxes**.

- In case if it's impossible, warn the user and ask for new **N**
- If it is possible, return number of each type of boxes:

```
6x Box: 3
9x Box: 8
20x Box: 0
```

 **Note:** You can solve this problem without recursion (using Greedy algorithm, like in previous semester), but it will return wrong values in most of cases.

For example, if you will try to give user as much largest boxes as possible and give rest with smaller, it will fail for 12 boxes.

Problem 1 (Chicken nuggets) . Additional tasks

Additional task 1: If it is impossible to give a desired number of nuggets, find the closest (but larger) possible combination that can be given

Enter N: 10

Unfortunately, we cannot give 10 nuggets, however we can offer you 12:

6x Box: 2

9x Box: 0

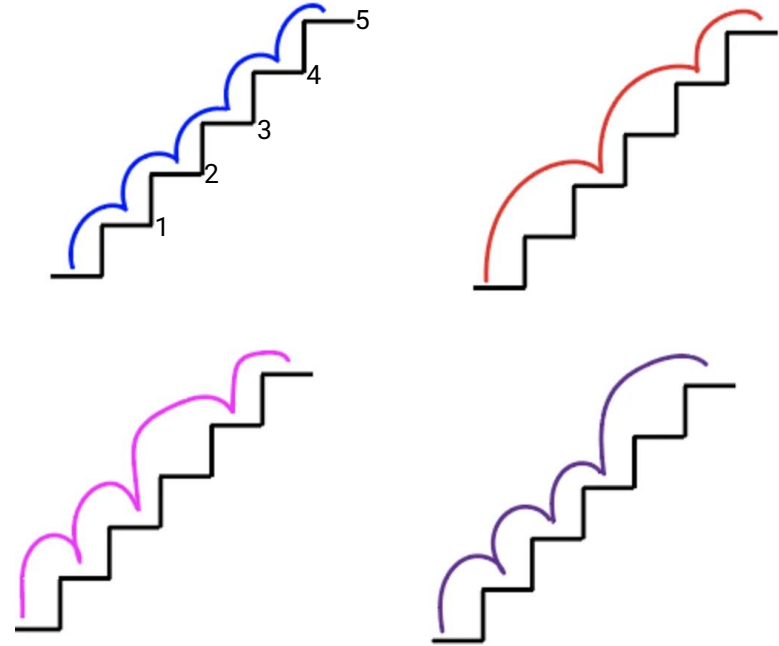
20x Box: 0

Additional task 2: Create a program to find biggest possible number of nuggets which cannot be served in this boxes (Hint: this number is less than 100)

Problem 2 (Jumping ball)

The stairs have **N** steps (excluding the first floor). William is going upstairs. Every time he can either step into next step or skip one.

Create a program that finds in how many ways William can reach next floor.



Example of different ways for $N=5$