Algorithmic Problem Solving - CA 2 - Group 8

Danyil Tymchuk - B00167321

Question 1

A rectangle has area measuring 120 square centimeters. Its length and width are whole numbers of centimeters. List all the possible combinations of length and width? Which possibility gives the smallest perimeter?

List Solution:
1. 1 times 120
2. 2 times 60
3. 3 times 40
4. 4 times 30
5. 5 times 24
6. 6 times 20
7. 8 times 15
8. 10 times 12
9. 12 times 10
10. 15 times 8
11. 20 times 6
12. 24 times 5
13. 30 times 4
14. 40 times 3
15. 60 times 2
16. 120 times 1

The combination that gives the smallest perimeter is (10 times 12) = 44 cm.

Question 2

Noel has a number of 10c coins and 5c coins in his pocket. List all the possible ways to make change for 50c.

List Solution:
1. 10 times 5c
2. 1 times 10c + 8 times 5c
3. 2 times 10c + 6 times 5c
4. 3 times 10c + 4 times 5c
5. 4 times 10c + 2 times 5c
6. 5 times 10c