**Homework assignment 1**

* **Question 1.**

Euler circuits (1)

Starting with vertex ‘a’ the partial circuit (a,c,h,j,i,e,d,j,g,b,a)

Euler circuits (2)

Starting with vertex ‘b’ yields a partial circuit (b,f,c,b)

Combine the two circuits to get a new partial circuit (a,c,h,j,i,e,d,j,g,b,f,c,b,a)

Euler circuits (3)

Starting with vertex ‘f’ a greedy approach yields (f,e,g,i,f)

Combine the circuits to get a new circuits (a,c,h,j,i,e,d,j,g,b,f,e,g,i,fc,b,a)

* **Question 2.**

Algorithm Delta\_X

Input: A set X of integers, that has to be sorted in ascending order.

Output: The multi-set ΔX of consecutive differences

1. Sort the set X in ascending order

2. Initialize an empty list Delta\_X

3.For i = 1 to length of X - 1 do

4. Compute difference D = X[i+1] - X[i]

5. Add D to Delta\_X

6.End For

7. Return Delta\_X