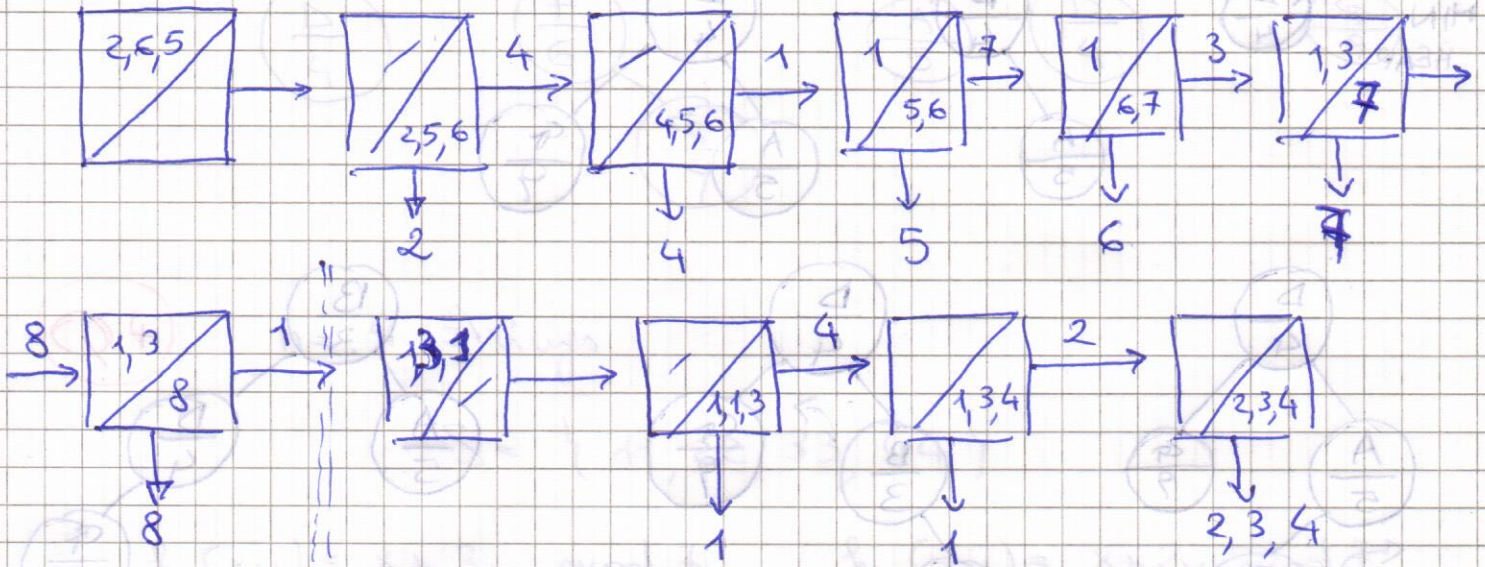


Midterm 6/11/23

Q1

$S = (2, 6, 5, 4, 1, 7, 3, 8, 1, 4, 2)$

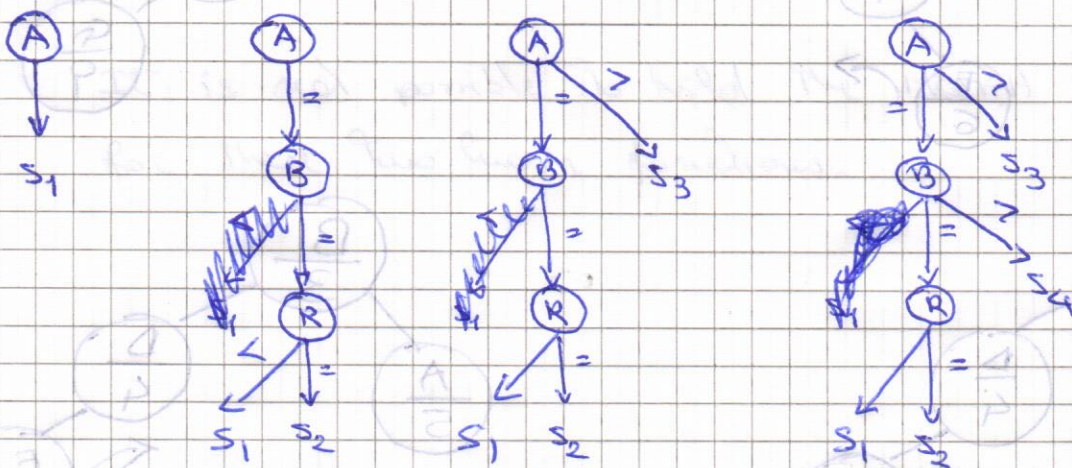


So SnowFlake creates two sorted subsequences:

$2, 4, 5, 6, 7, 8$  //  $1, 1, 2, 3, 4$

Q2

$S = \{ ABAC, ABRA, BACCO, ACAT \}$   
 $s_1 \quad s_2 \quad s_3 \quad s_4$



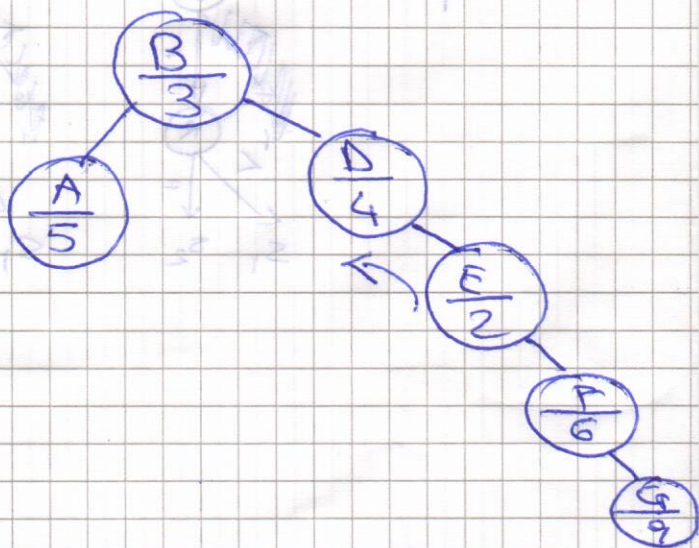
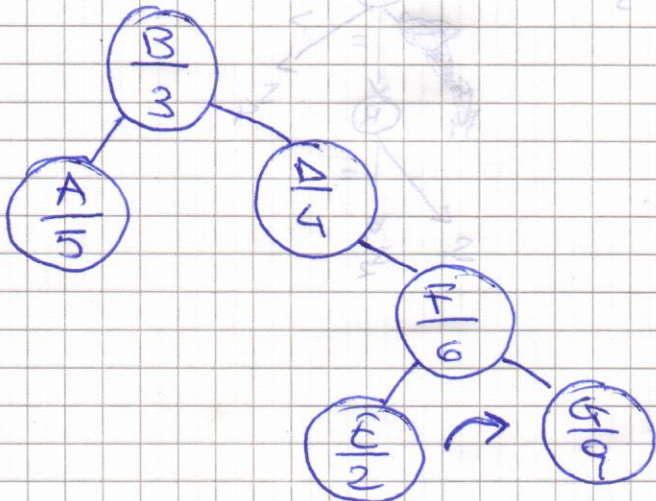
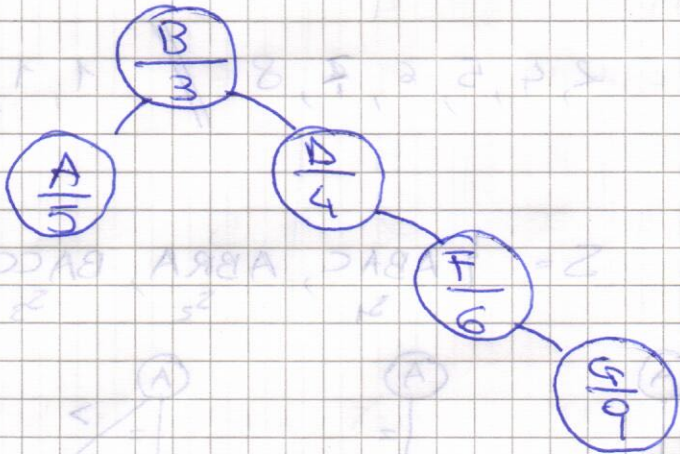
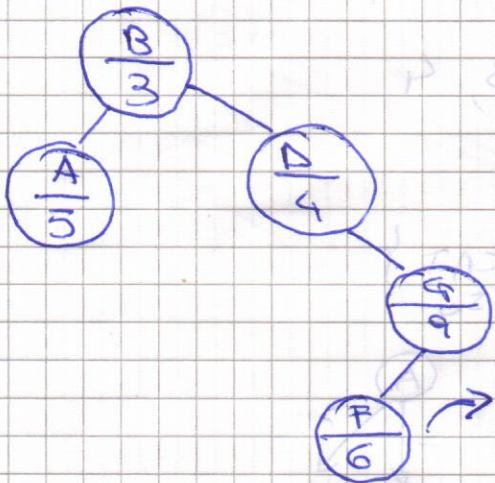
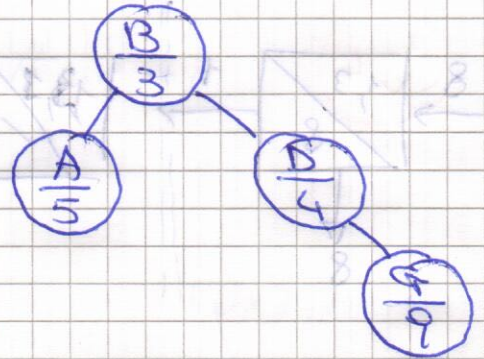
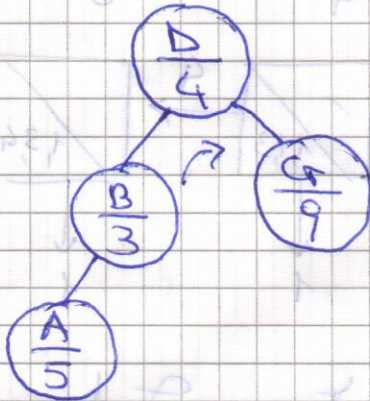
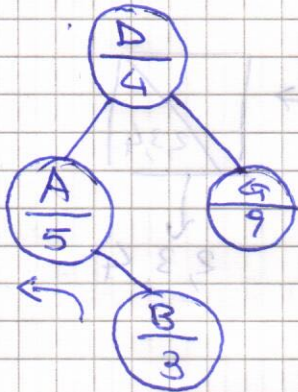
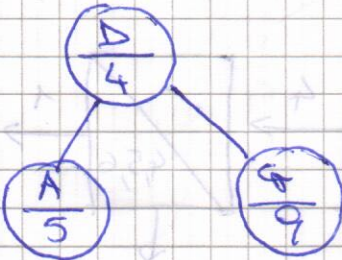


Q3

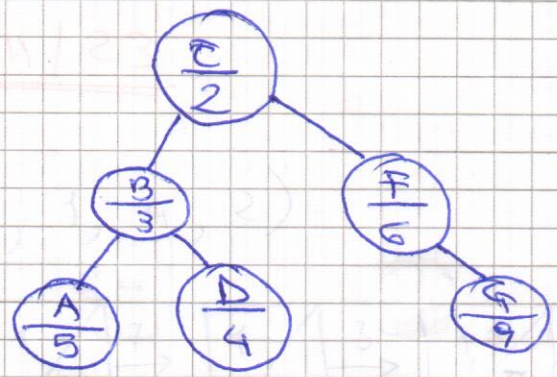
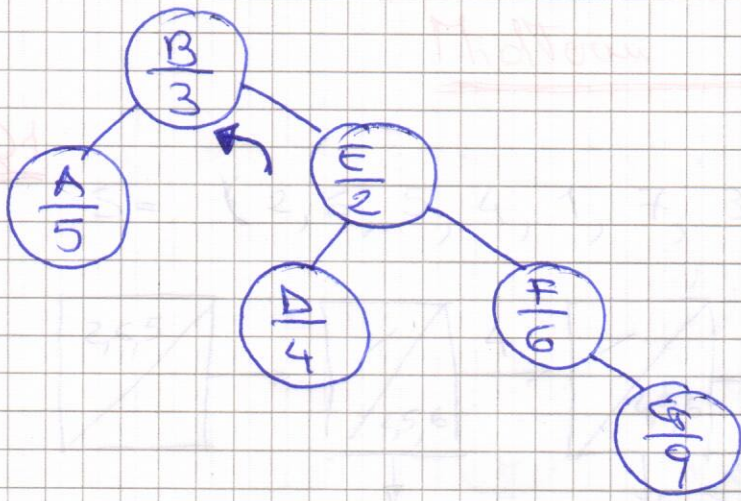
Heap Sort

$$S = \{ \langle D, 4 \rangle \langle A, 5 \rangle \langle G, 9 \rangle \langle B, 3 \rangle \langle F, 6 \rangle \langle E, 2 \rangle \}$$

MIN  
HEAP







Q4

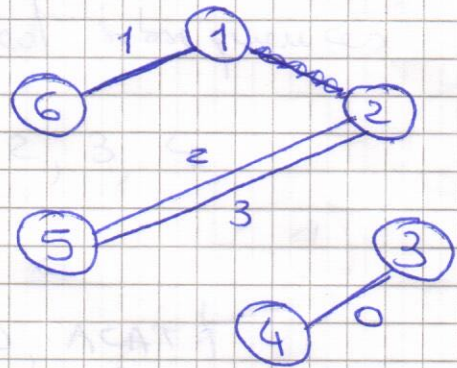
$n = 4$  strings

$$S = \{11, 22, 33, 44\}$$

$$h_1(xy) = x + 3y \pmod{7}$$

$$h_2(xy) = x + 2y \pmod{7}$$

	$h$	$h_1$	$h_2$
11	0	4	3
22	1	1	6
33	2	5	2
44	3	2	5



It is not possible to build the MOPH for these two hash functions.