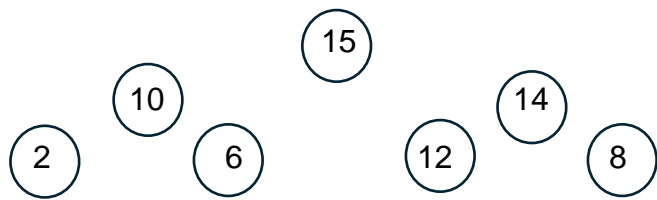
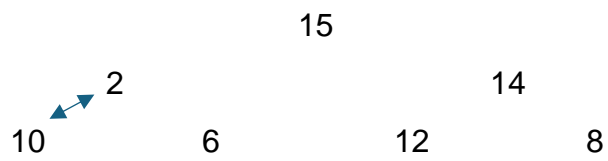
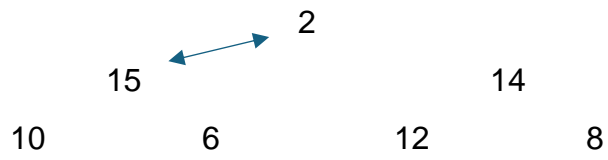
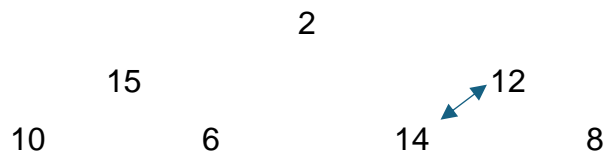
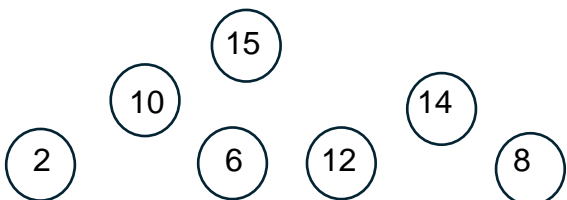
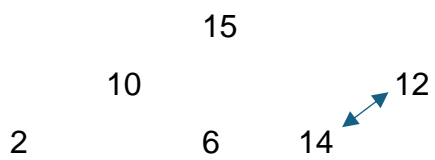
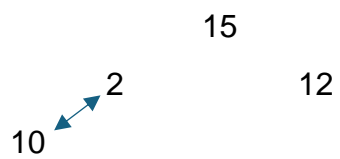
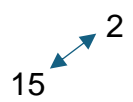


P1.

a) Bottom-up



b) Top-down



c) It is not always true that the two algorithms will yield the same heap for the same input

P2.

Char	T	C	A	**
Shift	1	3	6	11

T	T	A	T	A	G	A	T	C	T	C	G	T	A	T	T	C	T	T	T	T	A	T	A	G	A	T	C	T	C	C	T	A	T	T	C	T	T	T
T	C	C	T	A	T	T	C	T	T	T																												
			T	C	C	T	A	T	T	C	T	T	T																									
									T	C	C	T	A	T	T	C	T	T	T																			
										T	C	C	T	A	T	T	C	T	T	T																		
											T	C	C	T	A	T	T	C	T	T	T																	

P3.

K	63	42	45	64	53	41
K mod 11	8	9	1	9	9	8

a.

0	1	2	3	4	5	6	7	8	9	10
	45							63	42	
								41	64	
									53	

Largest number of key comparisons: 3

b.

0	1	2	3	4	5	6	7	8	9	10
53	45	41						63	42	64

Largest number of key comparisons: 6