TUTORIAL 5: SUGGESTED SOLUTIONS   **SEMESTER II, AY 2010/2011**

1.

2. If we consider Kate and William as one entity. There are $B(8)$ ways to partition the children into playgroups where Kate and William are in the same group. By the subtraction principle the answer we want is $B(9) - B(8)$

$$B(9) = \sum_{k=0}^{n} B(k) \binom{n}{k}$$

$$\implies B(9) - B(8) = \sum_{k=0}^{n-1} B(k) \binom{n}{k} = 17007.$$

3.

4.

5.

6.

7.