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1. What is the result of adding together all the whole numbers from 1 to 100 inclusive, 1+2+3+...+99+100? Don't just write the answer, you must also show how you got that answer.

2. What is the result of adding together all the powers of two from 1 to 100 inclusive, $2^1+2^2+2^3+...+2^{99}+2^{100}$? Don't just write the answer, you must also show how you got that answer. You also don't need to write the answer out as a number. That's a small hint.

3. What is 2^{48} as a number in decimal. Don't work out the exact answer, use the well known method for making a good estimate of the value. Show your work, I need to see that you know the method.

4. We looked at Selection Sort last Thursday. As a reminder, that's the method where you first find the smallest item and bring it to the front of the array, then find the smallest of the remainder and bring it to the front of the remainder and so on.

    If it takes 1 second for selection sort to sort 10,000 strings, approximately how long would it take to sort ...

    i.   20,000 strings?

    ii. 100,000 strings?

    iii. 5,000 strings?