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Intelligent Systems Programming
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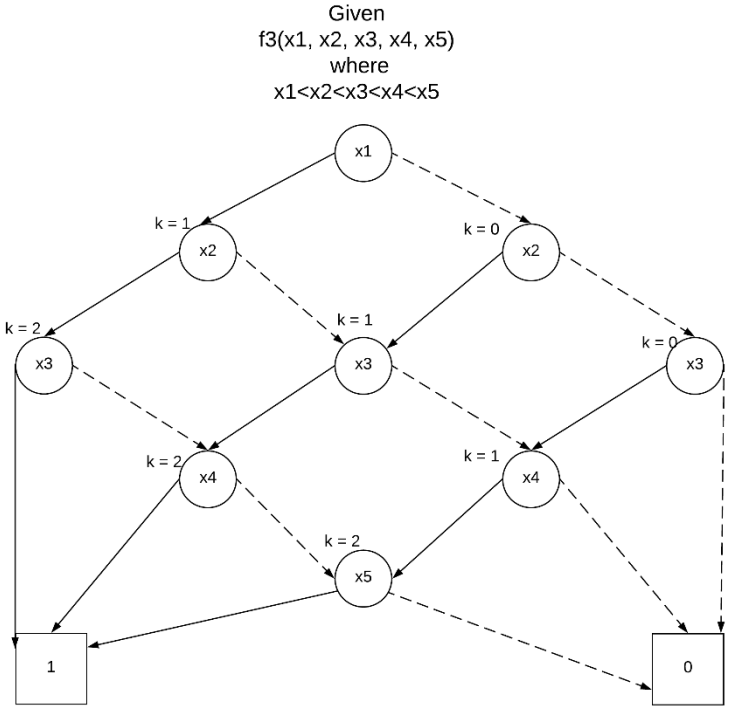
Exercise 7 answers

Answers 1 + 2

$$f^k(x_1, x_2, \dots, x_n) \equiv (|\{x_i = 1\}| \geq k).$$



Answers 3

The size of the reduced ordered binary decision diagram of $f^k(x_1, x_2, \dots, x_n)$ is $O(kn)$ because given n Boolean variables one needs at least k true variables. Thus the tree can at most be n in depth and at most k in the branching factor yielding a total node size of $O(kn)$