Common Complexity Functions

Consider the below complexity functions, where $k > j > 2$, $b > a > 1$, and c is a constant. If a complexity function $g(n)$ is before complexity function $f(n)$, then $g(n)$ is more efficient than $f(n)$.

1. $f(n) = c$ Constant
2. $f(n) = \log^* n$ Log-Star
3. $f(n) = \lg n$ Log
4. $f(n) = n$ Linear
5. $f(n) = n \lg n$ n Log n
6. $f(n) = n^2$ n Squared
7. $f(n) = n^j$ n to the j^{th}
8. $f(n) = n^k$ n to the k^{th}
9. $f(n) = a^n$ a to the n^{th}
10. $f(n) = b^n$ b to the n^{th}
11. $f(n) = n!$ n Factorial
12. $f(n) = n^n$ n to the n^{th}