

Exercise: Time complexity

Student ID and Names:

What is the asymptotic notation of $T(n)$ of the following codes:

No	Code	$\Theta(n)$
1	<pre>public static void f(int n){ int result=0; for(int i = 3; i<n; i++) result +=1; System.out.println(result); }</pre>	n
2	<pre>public static void f(int n){ int result=0; for(; n > 0 ; n/=2) result +=1; System.out.println(result); }</pre>	$\log_2 n$
3	<pre>public static void f(int n){ int result=0; for(int i = 0; i<n; i++) for(int j = 0; j<n; j++) result +=1; System.out.println(result); }</pre>	n^2
4	<pre>public void f(int n){ for(int i = 0 ; i < 10; i++) n++; System.out.println(n); }</pre>	10
5	<pre>public int f(int n) { if(n<1) return 0; else if(n==1) return 1; return f(n-1)+f(n-2); }</pre>	2^n