Find the running time in Big O notation for each of the following code segments.

1. for ( i = 0; i < n \* n; i++ )

loop body; O( n ) = \_\_\_\_\_\_n2\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. int sum = 0;

for ( i = 0; i < n; i++ )

{

if ( n % 2 == 0 )

sum++;

else

sum = sum + n;

} O( n ) = \_\_\_\_\_\_\_n\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. for ( i=0; i<=n-1; i++ )

{

for ( j=i+1; j<=n-1; j++ )

loop body;

} O( n ) = \_\_\_\_\_\_\_\_\_n2\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. for( k=0; k <=n/8; k++ )

loop body;

for ( p=n; p>= 1; p-- )

loop body; O( n ) = \_\_\_\_n\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. for( k=3; k <=n; k++ )

System.out.println(k);

System.out.println("Next");

for ( p=n; p>= 1; p-- )

{

for ( a=n-3; a<=n-2; a++ )

System.out.println(p\*a);

} O( n ) = \_\_\_\_\_\_n+2n=3n=n\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. for ( i=0; i<n-3; i++ )

{

for ( k=1; k<n; k\*=2 )

System.out.println(i + k);

} O( n ) = \_\_\_\_\_\_\_\_n\*logn\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_