1.

public static void Q1a(int n) {   
 int a = 0;   
 for(int i=0; i<n; i++)   
 a += Q1b(n);   
 System.out.println(a);   
}   
   
public static int Q1b(int n) {   
 int b = 0;   
 while(n>0) {   
 b += n;   
 n = n / 2;   
 }   
 return b;   
}

The while loop in Q1b is executed times. The time complexity of Q1b is thus O(logn). The for loop in Q1b is executed n times. Thus the time complexity of Q1a is O(nlogn) .

2.

3.

At the ith iteration of the loop, , thus when x=n . Thus the time complexity is

4.

Loop 2 only executes once since j=i+1 will not be greater than i when decremented. In loop 3, j=i+1 thus the loop will execute n-j=n-i-1 times.

Thus the time complexity is O(n^2)