Problems On Time Complexity

Assignment Questions

Q1. Calculate the time complexity of the given function: (Easy)

```java
public static void fun(int n)
{
    if (n < 5)
        System.out.print("College Wallah");
    else {
        for (int i = 0; i < n; i++) {
            System.out.print(i + " ");
        }
    }
}
```

Q2. Calculate the time complexity of the given function: (Medium)

```java
public static void function(int n)
{
    int i = 1, s = 1;
    while (s < n) {
        s = s + i;
        i++;
    }
}
```

Q3. Calculate the time complexity of the given function: (Medium)

```java
public static void fun(int a, int b){
    while (a != b) {
        if (a > b)
            a = a - b;
        else
            b = b - a;
    }
}
```

Q4. Calculate the time complexity of the given function: (Medium)

```java
public static void fun(int n, int x){
    for (int i = 1; i < n; i = i * x)
        System.out.println("hello");
}
```

Q5. Calculate the time complexity of the given function: (Hard)

```java
public static void fun(int n){
for (int i = 0; i < n / 2; i++)
        for (int j = 1; j + n / 2 <= n; j++)
            for (int k = 1; k <= n; k = k * 2)
                System.out.println("hello");
}
```