Find the time complexities for the following programs

```
int a = 0, b = 0;
for (i = 0; i < N; i++) {
    a = a + rand();
}
for (j = 0; j < M; j++) {
    b = b + rand();
}
```

```
int a = 0;
for (i = 0; i < N; i++) {
    for (j = N; j > i; j--) {
        a = a + i + j;
    }
}
```

```
int i, j, k = 0;
for (i = n / 2; i <= n; i++) {
    for (j = 2; j <= n; j = j * 2) {
        k = k + n / 2;
    }
}
```

```
int a = 0, i = N;
while (i > 0) {
    a += i;
    i /= 2;
}
```

```
for(var i=0;i<n;i++)
    i*=k
```

```
var value = 0;
for(var i=0;i<n;i++)
    for(var j=0;j<i;j++)
    value += 1;
```

Find the time complexities for the following programs

```
function(int n){
    if (n==1)
       return;
    for (int i=1; i<=n; i++){
        for (int j=1; j<=n; j++){
            printf("*");
            break;
        }
    }
}
```

```
static void function(int n){
    int count = 0;
    for (int i = n / 2; i <= n; i++)
        for (int j = 1; j <= n; j = 2 * j)
            for (int k = 1; k <= n; k = k * 2)
                count++;
}
```

```
void function(int n){
    int count = 0;
    for (int i=n/2; i<=n; i++)
        for (int j=1; j+n/2<=n; j = j++)
            for (int k=1; k<=n; k = k * 2)
                count++;
}
```

```
void function(int n){
    int i = 1, s =1;
    while (s <= n){
        i++;
        s += i;
        printf("*");
    }
}
```

```
void function(int n){
    int count = 0;
    for (int i=0; i<n; i++)
        for (int j=i; j< i*i; j++)
            if (j%i == 0){
                for (int k=0; k<j; k++)
                    printf("*");
            }}
```