

1) (5 pts) ANL (Algorithm Analysis)

Consider the following function with integer inputs n and m :

```
void solveit(int* array, int n, int m) {  
  
    int i, res = 0;  
    for (i=0; i<n; i++) {  
        int low = 0, high = m;  
        while (low < high) {  
            int mid = (low+high)/2;  
            if (f(mid) < array[i])  
                low = mid+1;  
            else  
                high = mid;  
        }  
        printf("%d\n", low);  
    }  
}
```

You may assume that the function f that is called from `solveit` defines a monotonically increasing function that runs in $O(1)$ time. With proof, determine the run-time of this function in terms of n and m .