

## 1) (5 pts) ANL (Algorithm Analysis)

What is the best and worst case runtime for the following algorithm, in terms of the input parameter  $n$ ? You may assume that the array pointed to by `arr` is of length  $n$ . Give a brief explanation for your answers.

```
int foo(int * arr, int n, int value){  
    int cur = 0, jump = n/2;  
    while (jump > 0) {  
        if (value > arr[cur])  
            cur += jump;  
        else if (value == arr[cur])  
            return cur;  
  
        jump = jump/2;  
    }  
  
    return cur;  
}
```