**1)** (10 pts) ANL (Algorithm Analysis)

With proof, determine the Big-Oh run time of the function, f, below, in terms of the input parameter n:

```
int f(int array[], int n) {

    int i, t = 0, a = 0, b = n-1;
    while (a < b) {

        for (i=a; i<=b; i++)
            t += array[i];

        if (array[a] < array[(a+b)/2])
            b = (a+b)/2-1;
        else
            a = (a+b)/2+1;

    }
    return t;
}
```

In your work, you may use the following result: $\sum_{i=0}^{\infty}(\frac{1}{2})^i = 2$.