Day 4 Assignment

Q-1)In the Binary Search algorithm, it is suggested to calculate the mid as beg + (end - beg) / 2 instead of (beg + end) / 2 because the intermediate values, as well as the expected result, are no larger than end, so there is no danger of overflow.

Q-2)#include <stdio.h>int ternarySearch(int array[], int left, int right, int x){

if (right >= left) {

int intvl = (right - left) / 3;

int leftmid = left + intvl;

int rightmid = leftmid + intvl;

if (array[leftmid] == x)

return leftmid;

if (array[rightmid] == x)

return rightmid;

if (x < array[leftmid]) {

return ternarySearch(array, left, leftmid, x);

}

else if (x > array[leftmid] && x < array[rightmid]) {

return ternarySearch(array, leftmid, rightmid, x);

}

else {

return ternarySearch(array, rightmid, right, x);

}

}

return -1;

}int main(void){

int array[] = {1, 2, 3, 5};

int size = sizeof(array)/ sizeof(array[0]);

int find = 3;

printf("Position of %d is %d\n", find, ternarySearch(array, 0, size-1, find));

return 0;

}