Q1)

68 x 139

Half | Double

34 | 278

17 | 556

8 | 1112

4 | 2224

2 | 4448

1 | 8896

556 + 8896 = 9452

Q2)

arrayMax(): Finds the biggest integer in an array

INPUT: array (A) of N integers; OUTPUT: maximum element of A.

Line | Time

arrayMax(A,n) { | 0 (1 if we include call time)

currentMax = A[0] | 2 (indexing to A[0], assigning value to currentMax)

for (i=0; I < A.length; i++){ | 3N (using length, incrementing i, checking i < length)

if(A[i]>currentMax){ | 2N (indexing to A[i], checking A[i] > currentMax) Ntimes

currentMax=A[i] } | Max 2N (indexing to A[i], assigning value to currentMax) Max N times

Return currentMax | 1 (Return a value)

Total: T(N) | 7N+3

Q3)

Public int RusPesAlg(int a, int b)

{

//a=17;b=15 optional hardcode

int res=0;

while (b>0)

{

if(b%2=1)

{

res+=a;

}

a\*=2;

b\*=0.5;

}

Return res;

}