**Question 1: In the Binary Search algorithm, it is suggested to calculate the mid as**

**beg + (end - beg) / 2 instead of (beg + end) / 2. Why is it so?**

**Ans:**

This is done to avoid overflow that may happen in adding two very big integers where the addition result may become greater than the max integer limit and yield weird results.

**Question 2: Write the algorithm/function for Ternary Search.**

**Ans:**

int ternary\_search(int l,int r, int x)

{

if(r>=l)

{

int mid1 = l + (r-l)/3;

int mid2 = r - (r-l)/3;

if(ar[mid1] == x)

return mid1;

if(ar[mid2] == x)

return mid2;

if(x<ar[mid1])

return ternary\_search(l,mid1-1,x);

else if(x>ar[mid2])

return ternary\_search(mid2+1,r,x);

else

return ternary\_search(mid1+1,mid2-1,x);

}

return -1;

}