Q) In the binary search algorithm, it is suggested to calculate the mid as

beg+(end-beg/2 instead of (beg+end)/2.

Why it is so?

Because (beg+end) may overflow. which then means you get a result that is so less than beg or far into the -ve if you are using signed integers.

So, instead ~~they~~ take the distance b/w beg & End & add half of that of beg. That is only a single extra operation to make this algorithm more robust.

Q) write the algorithm/function for Ternary search.

```
int ternary search (int l, int r, int n)
{
if (r>=1)
{
```

```
int mid 1= l+(r-l)/3;
int mid 2= r-(r-l)/3;
  if (ar[mid 2]== x)
  return mid 2;
  if (x< ar(mid 1])
  return ternary search( l,mid-1, x);
  Else if (x>ar [mid 2]
 return ternary search (mid 2+1, r, x);
Else return ternary search (mid +1, mid 2 -1, x)
}
return -1;
}
```