Write pseudocode for merge sort algorithm.

Merge Sort Algorithm

```
void mergesort(int A[], int first, int last)
{ if (first == last)
      return;
  else
  { mid = (first + last)/2;
      mergesort(A, first, mid);
      mergesort(A, mid+1, last);
      merge (A, first, mid, last);
  }
}

void merge (int A[], int first, int mid, int last)
{ j=0;
   lpt = first;
   upt = mid+1;
   n = last - first + 1;
   while (lpt < mid+1 and upt < last+1)
   { if (A[lpt] < A[upt]) then
      begin
         B[j] = A[lpt];
         lpt = lpt+1;
         j = j+1;
      end
      else
      begin
```

```
        B[j] = A[upt];
        upt = upt+1;
        j=j+1;
    end
}
while (lpt < mid+1) do
begin
    B[j] = A[lpt];
    j=j+1;
    lpt=lpt+1;
end
while (upt < last+1) do
begin
    B[j] = A[upt];
    j=j+1;
    upt = upt+1;
end
lpt = first;
for j=0 to n-1 do
begin
    A[lpt] = B[j];
    lpt=lpt+1;
end
}
```

Show how merge sort is done in the array given below.

[14, 7, 3, 12, 9, 11, 6, 2, 15]

ans.