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Algorithm:- merge sort

Step 1:- Start

Step 2:- Input a[] = {64, 52, 45, 125, 15, 268, 1, 2, 25, 2.5}

Step 3:- merge (int **a, int ibegin, int imid, int iEnd, int **b)

Step 4:- Splitmerge (int **b, int ibegin, int iEnd, int **a)

Step 5 :- ** mergesort (int *a, int size)

Step 6 :- int size = Size of a / Size of a[0]

Step 7 :- int ** ret = mergesort (a, size)

Step 8 :- Display sorted array element

Step 9 :- for (int i=0; i<size; i++)

Display *ret[i]

Step 10 :- free (ret)

Step 11 :- Stop

merge (int **a, int ibegin, int imid, int iend, int **b)

Step 1 :- Entry

Step 2 :- int i = ibegin, j = imid

Step 3 :- for (int k = ibegin; k < iend; F++)

b[c] = a[i < mid && (j >= iend || *a[i] <= *a[j]) ? i++ : j++]

Step 4 :- End

Splitmerge (int **b, int ibegin, int iend, int **a)

Step 1 :- Entry

Step 2 :- if (iend - ibegin < 2)

return

Step 3 :- int imid = (iend + ibegin) / 2

Step 4 :- Splitmerge (a, ibegin, imid, b)

Step 5 :- Splitmerge (a, imid, iend, b)

Step 6 :- merge (b, ibegin, imid, iend, a)

Step 7 :- End

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Merge sort (int *a, int size)

Step 1 :- Entry

Step 2 :- int ** ret = (int**)malloc (size * sizeof (*ret))

Step 3 :- int * temp = malloc (size * sizeof (* temp))

Step 4 :- for (int i = 0; i < size; i++)

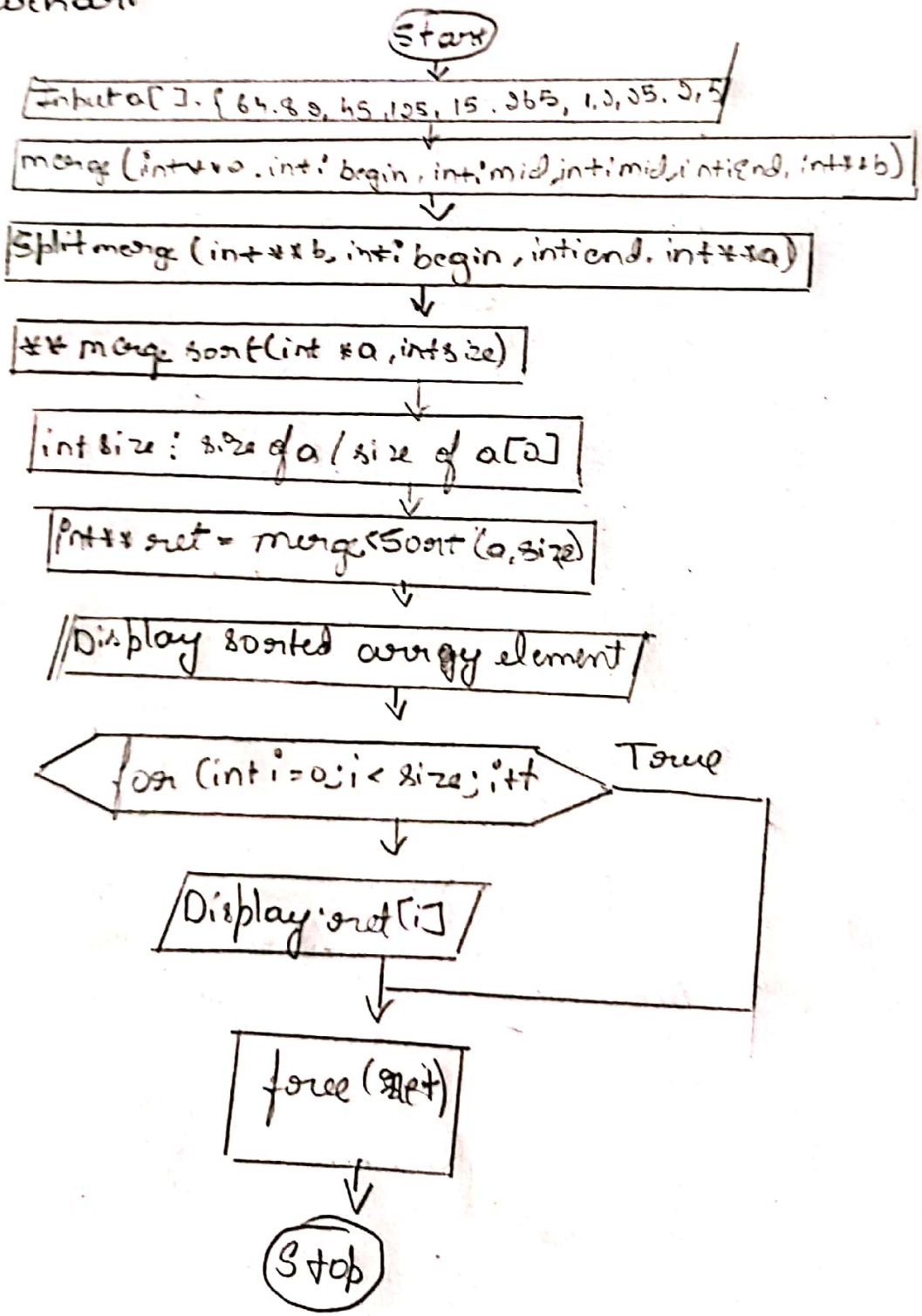
ret [i] = temp [i] = a + i

Step 5 :- split merge (temp, 0, size, ret)

Step 6 - free (temp)

Step 7 :- return ret

flowchart



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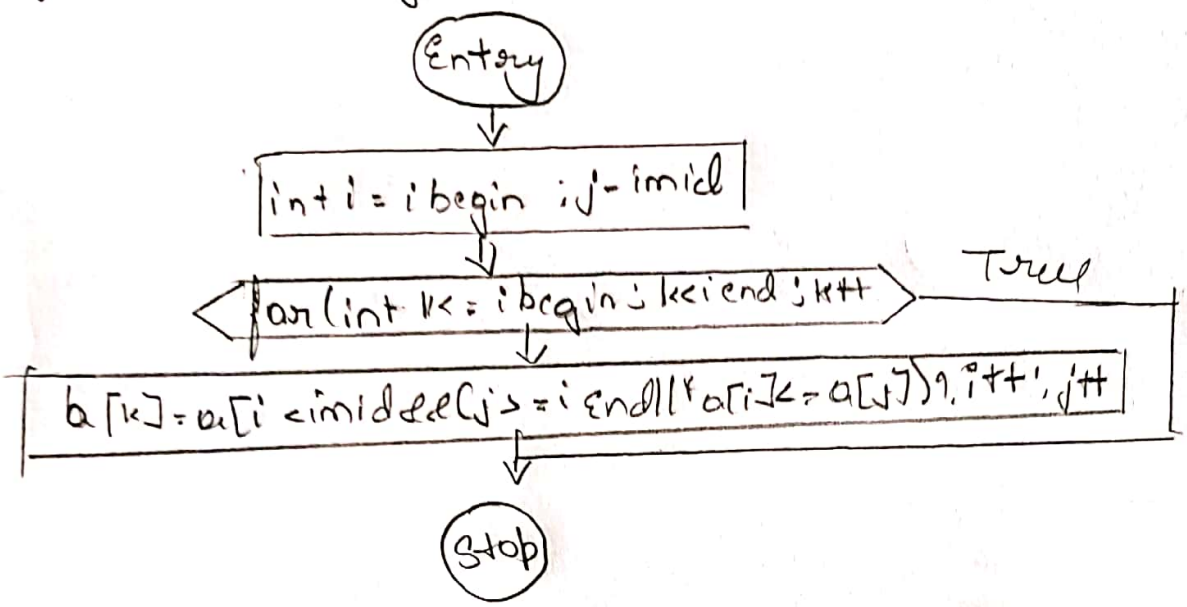
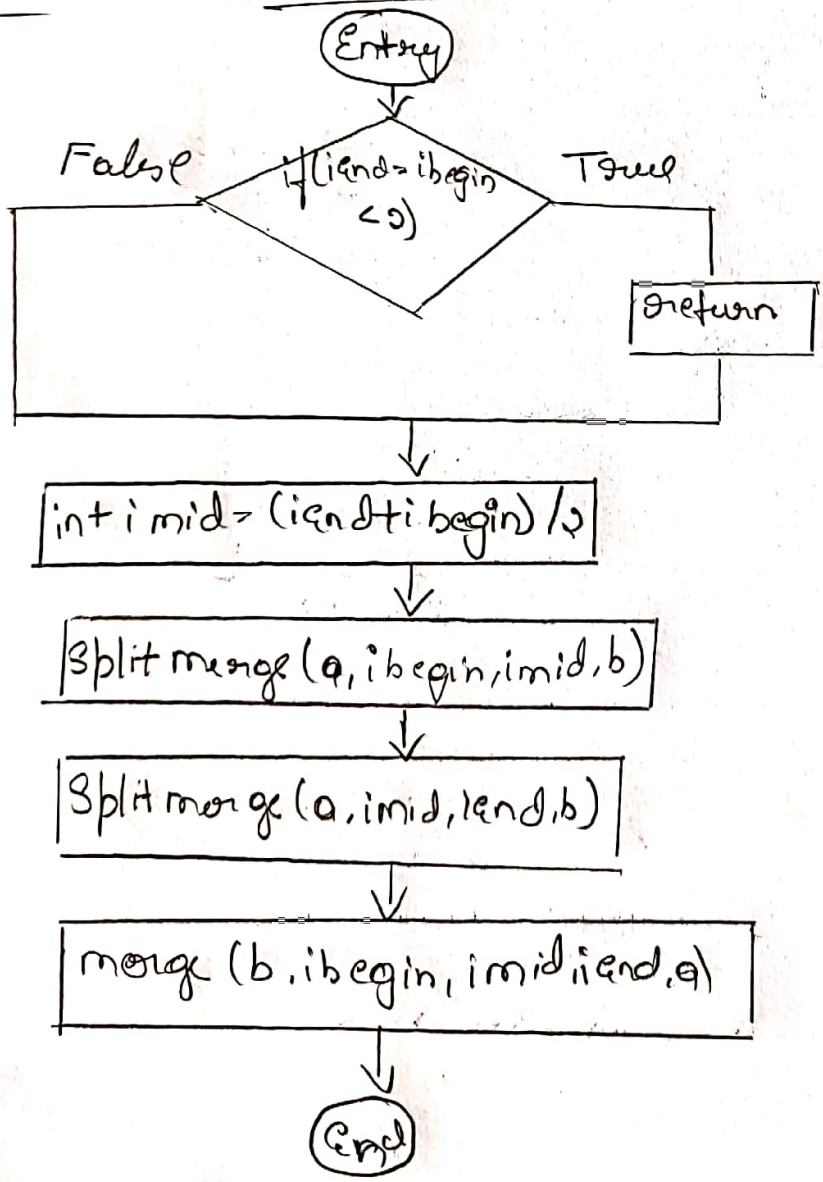
merge (int* a, int ibegin, int imid, int iend, int *b)



Splitmerge (int *b, int ibegin, int iend, int *a)



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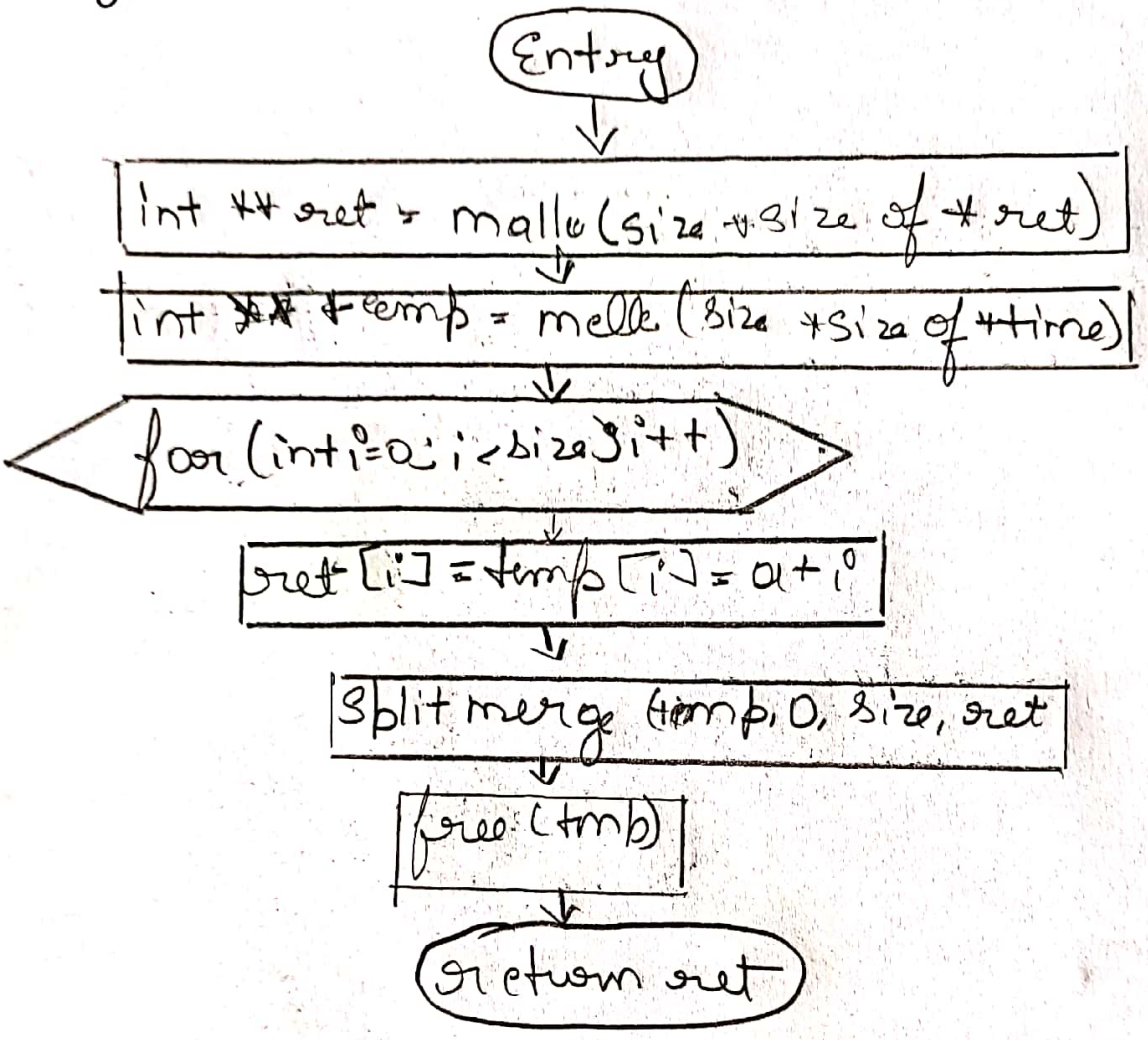
** merge sort (int *a, int size)



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