

HARUN ALBAYRAK – Homework #2 Report

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CSE 331

Readable explanation of functions in code

```
int CheckSumPossibility(int num, int arr[], int size);
```

This function returns integer(0 or 1). It should return 1 if the number is equal to the sum of the elements of any subset of the array.

Elements of the array are entered one by one. (press enter)

The number of function calls is not visible in the screenshots. (added later)

>> Inputs <<

int num : the target number (C++)

\$a1 : the target number (Assembly)

int arr[] : the array (C++)

Array .word 100 : the array (Assembly)

int size : the size of the array (C++)

\$a0 : the size of the array (Assembly)

int function_calls(global) : number of function calls (C++)

\$a2 : number of function calls (Assembly)

>> Output <<

Returned value of the function : the returned number (C++)

\$v0 : the returned number (Assembly)

>> Optimization <<

```
int x = CheckSumPossibility(newNumber,arr,newSize);  
if(x == 1){  
    return 1;  
}
```

```
int y = CheckSumPossibility(num,arr,newSize);  
if(y == 1){  
    return 1;  
}
```

Result of Test Cases

NOTE: Black: C++ , White: Assembly

1) Array size : 8, Target number: 129, Array: 92,82,21,16,18,95,47,26

Result: Possible!, Test: Passed

Please enter the array size: 8 Please enter the target number: 129 Please enter elements of the array: 92 Please enter elements of the array: 82 Please enter elements of the array: 21 Please enter elements of the array: 16 Please enter elements of the array: 18 Please enter elements of the array: 95 Please enter elements of the array: 47 Please enter elements of the array: 26 Possible!	Please enter the array size: 8 Please enter the target number: 129 Please enter elements of the array: 92 Please enter elements of the array: 82 Please enter elements of the array: 21 Please enter elements of the array: 16 Please enter elements of the array: 18 Please enter elements of the array: 95 Please enter elements of the array: 47 Please enter elements of the array: 26 Possible!
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2) Array size : 10, Target number: 42, Array: 27,19,6,7,19,12,28,23,6,5

Result: Possible!, Test: Passed

Please enter the array size: 10 Please enter the target number: 42 Please enter elements of the array: 27 Please enter elements of the array: 19 Please enter elements of the array: 6 Please enter elements of the array: 7 Please enter elements of the array: 19 Please enter elements of the array: 12 Please enter elements of the array: 28 Please enter elements of the array: 23 Please enter elements of the array: 6 Please enter elements of the array: 5 Possible!	Please enter the array size: 10 Please enter the target number: 42 Please enter elements of the array: 27 Please enter elements of the array: 19 Please enter elements of the array: 6 Please enter elements of the array: 7 Please enter elements of the array: 19 Please enter elements of the array: 12 Please enter elements of the array: 28 Please enter elements of the array: 23 Please enter elements of the array: 6 Please enter elements of the array: 5 Possible!
--	--

3) Array size : 10, Target number: 172, Array: 29,15,3,32,10,31,25,1,1,32

Result: Not Possible!, Test: Passed

Please enter the array size: 10 Please enter the target number: 172 Please enter elements of the array: 29 Please enter elements of the array: 15 Please enter elements of the array: 3 Please enter elements of the array: 32 Please enter elements of the array: 10 Please enter elements of the array: 31 Please enter elements of the array: 25 Please enter elements of the array: 1 Please enter elements of the array: 1 Please enter elements of the array: 32 Not Possible!	Please enter the array size: 10 Please enter the target number: 172 Please enter elements of the array: 29 Please enter elements of the array: 15 Please enter elements of the array: 3 Please enter elements of the array: 32 Please enter elements of the array: 10 Please enter elements of the array: 31 Please enter elements of the array: 25 Please enter elements of the array: 1 Please enter elements of the array: 1 Please enter elements of the array: 32 Not Possible!
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4) Array size : 10, Target number: 92, Array: 16,1,9,5,27,23,15,4,28,9

Result: Possible!, Test: Passed

Please enter the array size: 10 Please enter the target number: 92 Please enter elements of the array: 16 Please enter elements of the array: 1 Please enter elements of the array: 9 Please enter elements of the array: 5 Please enter elements of the array: 27 Please enter elements of the array: 23 Please enter elements of the array: 15 Please enter elements of the array: 4 Please enter elements of the array: 28 Please enter elements of the array: 9 Possible!	Please enter the array size: 10 Please enter the target number: 92 Please enter elements of the array: 16 Please enter elements of the array: 1 Please enter elements of the array: 9 Please enter elements of the array: 5 Please enter elements of the array: 27 Please enter elements of the array: 23 Please enter elements of the array: 15 Please enter elements of the array: 4 Please enter elements of the array: 28 Please enter elements of the array: 9 Possible!
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5) Array size : 10, Target number: 92, Array: 1,2,3,4,5,6,7,8,9,10

Result: Not Possible!, Test: Passed

Please enter the array size: 10 Please enter the target number: 92 Please enter elements of the array: 1 Please enter elements of the array: 2 Please enter elements of the array: 3 Please enter elements of the array: 4 Please enter elements of the array: 5 Please enter elements of the array: 6 Please enter elements of the array: 7 Please enter elements of the array: 8 Please enter elements of the array: 9 Please enter elements of the array: 10 Not Possible!	Please enter the array size: 10 Please enter the target number: 92 Please enter elements of the array: 1 Please enter elements of the array: 2 Please enter elements of the array: 3 Please enter elements of the array: 4 Please enter elements of the array: 5 Please enter elements of the array: 6 Please enter elements of the array: 7 Please enter elements of the array: 8 Please enter elements of the array: 9 Please enter elements of the array: 10 Not Possible!
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6) Array size : 10, Target number: 12, Array: 30,30,7,31,29,30,26,30,10,25

Result: Not Possible!, Test: Passed

Please enter the array size: 10 Please enter the target number: 12 Please enter elements of the array: 30 Please enter elements of the array: 30 Please enter elements of the array: 7 Please enter elements of the array: 31 Please enter elements of the array: 29 Please enter elements of the array: 30 Please enter elements of the array: 26 Please enter elements of the array: 30 Please enter elements of the array: 10 Please enter elements of the array: 25 Not Possible!	Please enter the array size: 10 Please enter the target number: 12 Please enter elements of the array: 30 Please enter elements of the array: 30 Please enter elements of the array: 7 Please enter elements of the array: 31 Please enter elements of the array: 29 Please enter elements of the array: 30 Please enter elements of the array: 26 Please enter elements of the array: 30 Please enter elements of the array: 10 Please enter elements of the array: 25 Not Possible!
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7) Array size : 10, Target number: 12, Array: 30,30,2,31,29,30,26,30,10,25

Result: Possible!, Test: Passed

Please enter the array size: 10 Please enter the target number: 12 Please enter elements of the array: 30 Please enter elements of the array: 30 Please enter elements of the array: 2 Please enter elements of the array: 31 Please enter elements of the array: 29 Please enter elements of the array: 30 Please enter elements of the array: 36 Please enter elements of the array: 30 Please enter elements of the array: 10 Please enter elements of the array: 25 Possible!	Please enter the array size: 10 Please enter the target number: 12 Please enter elements of the array: 30 Please enter elements of the array: 30 Please enter elements of the array: 2 Please enter elements of the array: 31 Please enter elements of the array: 29 Please enter elements of the array: 30 Please enter elements of the array: 36 Please enter elements of the array: 30 Please enter elements of the array: 10 Please enter elements of the array: 25 Possible!
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