Report of Homework2

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Inputs and Outputs

FOR CPP PART :

inputs :
- arraySize : size of array
- num : target number
- arr[] : array of numbers
- curpos : current position
- length : length of subset
- size : size of array

outputs :
- 1 : Possible
- 0 : Not Possible

FOR ASSEMBLY PART:

inputs:
- a3 register for length
- a2 register for current position
- a1 register for array size
- a0 register for target number

outputs:
- v0 register for return value

Explanation of Function CheckSumPosibility:

sum is a local variable
The funciton firstly checking if the current position is equal to size or not
if it is then it is adding ith the element of subset to sum i to length with loop
Then if sum is equal to target (num) then returns 1 else returns 0
IF current position (curpos) is not equal to size then it assigns arr[curpos] to S[length]
then it is calling CheckSumPossibility function recursively by adding 1 to current position (curpos) and length
why i use the second CheckSumPossibility call is to skip the current element by adding 1 to only current position (curpos)

Output of the Program (CPP)

```
8 129
41 67 34 0 69 24 78 58
Not possible!
```

It is not possible because there is no subset to find target number 129

```
8 129
62 64 5 45 81 27 61 91
Not possible!
```

It is not possible because there is no subset to find target number 129

```
8 129
95 42 27 36 91 4 2 53
Possible!
```

It is possible because sum of (36 91 2) gives the target

```
8 129
92 82 21 16 18 95 47 26
Possible!
```

It is possible because sum of (92 21 16) gives the target

```
8 129
71 38 69 12 67 99 35 94
Possible!
```

It is possible because sum of (35 94) gives the target

```
8 129
3 11 22 33 73 64 41 11
Not possible!
```

It is not possible because there is no subset to find target number 129

Output of the Program (Assembly)

```
Enter the array size (max limit 100)
8
Enter the target number
129
Enter numbers one by one
41
67
34
0
69
24
78
58
Not Possible!
-- program is finished running --
```

It is not possible because there is no subset to find target number 129

```
Enter the array size (max limit 100)
8
Enter the target number
129
Enter numbers one by one
62
64
5
45
81
27
61
91
Not Possible!
-- program is finished running --
```

It is not possible because there is no subset to find target number 129

```
Enter the array size (max limit 100)
8
Enter the target number
129
Enter numbers one by one
95
42
27
36
91
4
2
53
Possible! 36 91 2
-- program is finished running --
```

It is possible because sum of (36 91 2) gives the target

```
Enter the array size (max limit 100)
8
Enter the target number
129
Enter numbers one by one
92
82
21
16
18
95
47
26
Possible! 92 21 16
-- program is finished running --
```

It is possible because sum of (92 21 16) gives the target and also (82 21 26) but it returns when it find a subset so printing 92 21 16

```
Enter the array size (max limit 100)
8
Enter the target number
129
Enter numbers one by one
71
38
69
12
67
99
35
94
Possible! 35 94
-- program is finished running --
```

It is possible because sum of (35 94) gives the target

```
Enter the array size (max limit 100)
8
Enter the target number
129
Enter numbers one by one
3
11
22
33
73
64
41
11
Not Possible!
-- program is finished running --
```

It is not possible because there is no subset to find target number 129

BONUS PART :

I print the corresponding array elements in my assembly program (similar to shown in the above sample output.).