**Subset program**

**Design and implement C/C++ Program to find a subset of a given set S = {sl , s2,.....,sn} of n positive integers whose sum is equal to a given positive integer d.**

#include<stdio.h>

int subset(int,int);

int s[10],d,n,set[10],count=0;

void display(int);

int flag = 0;

void main()

{

int i;

printf("ENTER THE NUMBER OF THE ELEMENTS IN THE SET : ");

scanf("%d",&n);

printf("ENTER THE SET OF VALUES : ");

for(i=0;i<n;i++)

scanf("%d",&s[i]);

printf("ENTER THE SUM : ");

scanf("%d",&d);

printf("THE PROGRAM OUTPUT IS: ");

subset(0,0);

if(flag == 0)

printf("There is no solution");

}

int subset(int sum,int i)

{

if(sum == d)

{

flag = 1;

display(count);

return 1;

}

if(sum>d || i>=n)return 1;

else

{

set[count]=s[i];

count++;

subset(sum+s[i],i+1);

count--;

subset(sum,i+1);

}

}

void display(int count)

{

int i;

printf("\t{");

for(i=0;i<count;i++)

printf("%d,",set[i]);

printf("}");

}

Output:

ENTER THE NUMBER OF THE ELEMENTS IN THE SET : 5

ENTER THE SET OF VALUES : 6

4

3

2

1

ENTER THE SUM : 5

THE PROGRAM OUTPUT IS: {4,1,} {3,2,}