# Program 11

Design and implement in java to find a subset of a given set S={S1,S2.....Sn) of n positive integers whose sum is equal to a given positive integer d. For example, if S={1,2,5,6,8} and d=9,there are two solutions {1,2,6} and {1,8}. Display a suitable message, if the given problem instance doesn't have a solution.

```
import java.util.Scanner;
public class P11 {
	static int d,flag=0;
	static int[]S=new int[10];
	static int[]x=new int[10];
	static void sumofsub(int s,int k,int r)
	{
		int i;
		x[k]=1;
		if((s+S[k]==d))
		{
			flag=1;
			for(i=1;i<=k;i++)
				if(x[i]==1)
					System.out.print(S[i]+"\t");
			System.out.println();

			}
		else
			if(s+S[k]+S[k+1]<=d)
				sumofsub(s+S[k],k+1,r-S[k]);
		if((s+r-S[k]>=d) && (s+S[k+1]<=d))
		 {
		       x[k]=0;
		       sumofsub(s,k+1,r-S[k]);
		 }
	}
	public static void main(String[] args){
	int i,n,sum=0;
	Scanner read=new Scanner(System.in);
	System.out.println("enter the no of elements in the set");
	n=read.nextInt();
	System.out.println("enter the set in increasing order");
	for(i=1;i<=n;i++)
		S[i]=read.nextInt();
	System.out.println("enter the max subset value");
	d=read.nextInt();
	for(i=1;i<=n;i++)
		sum=sum+S[i];
	if(sum<d ||S[1]>d)
		System.out.println("no subset possible");
	else
	{
		System.out.println("the possible subsets are");
		sumofsub(0,1,sum);
		if(flag==0)
			System.out.println("no subject possible");
	 }
}   }
```