Program 10

```c
#include<stdio.h>
#include<stdlib.h>
int w[10] ;//denotes set s
int x[10] ;//boolean array which tells if ele is part of subset or not
int d; //max value recieves when ele is added in the subset
void sumSubset(int s, int k, int r){
 int i;
 static int b=1; //number of subsets
 x[k]=1;
 if(w[k]+s == d){
 printf("\nSubset %d) ",b++);
 for(i=1;i<=k;i++)
 if(x[i]==1)
 printf("%d\t",w[i]);
 }
 else if(s+w[k]+w[k+1] <= d)
 sumSubset(s+w[k], k+1, r-w[k]);
 if( (s+r-w[k]>=d) && (s+w[k+1]<=d) ){
 x[k]=0;
 sumSubset(s,k+1, r-w[k]);
 }

}
int main(){
 int n, i, sum=0;
 printf("\nSUBSET PROBLEM\n");
 printf("\nEnter the number of elements - ");
 scanf("%d",&n);
 printf("\nEnter the elements (in increasing order) - ");
 for(i=1;i<=n;i++){
 scanf("%d",&w[i]);
 sum += w[i];
 }
 printf("\nEnter the subset max value required - ");
 scanf("%d",&d);
 if(sum<d || w[1]>d){
 printf("\nNo subsets possible!!\n");
 exit(0);
 }
```

```
 sumSubset(0,1,sum);
 //0-s 1-k sum-r
 return(0);
}
```