**// Program 11: Write and execute a program to find a subset of a given set S = {s1, s2,.....,s n } 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}. A suitable message isto be displayed if the given problem instance doesn’t have a solution.**

#include <stdio.h>

void sumofsub(int m,int k,int r)

{

int i;

x[k]=1;

if((m+s[k])==d)

{

printf("{");

for(i=1;i<=k;i++)

if(x[i]==1)

{

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

flag=1;

}

printf("}");

printf("\n");

}

else

{

if(m+s[k]+s[k+1]<=d)

sumofsub(m+s[k],k+1,r-s[k]);

if((m+r-s[k]>=d) && (m+s[k+1]<=d))

{

x[k]=0;

sumofsub(m,k+1,r-s[k]);

}

}

}

int s[10], x[10], d, flag=0;

void sumofsub(int,int,int);

int main()

{

int i,n,sum=0;

printf("Enter maximum no\n");

scanf("%d",&n);

printf("Enter the set in increasing order\n");

for(i=1;i<=n;i++)

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

printf("Enter the maximum subset value:");

scanf("%d",&d);

for(i=1;i<=n;i++)

sum+=s[i];

if(sum<d || s[1]>d)

{

printf("No subset possible\n");

flag=1;

}

sumofsub(0,1,sum);

if(flag==0)

printf("no subset possible\n");

return 0;

}

**Output:**

Enter maximum no

5

Enter the set in increasing order

1 2 4 5 6

Enter the maximum subset value:9

{ 1 2 6 }

{ 4 5 }

**Output:**

Enter maximum no

5

Enter the set in increasing order

1 5 7 9 10

Enter the maximum subset value:15

{ 1 5 9 }

{ 5 10 }

**OR**

#include <stdio.h>

int s[10], x[10], d, flag=0;

void sumofsub(int,int,int);

int main()

{

int i,n,sum=0;

printf("Enter maximum no\n");

scanf("%d",&n);

printf("Enter the set in increasing order\n");

for(i=1;i<=n;i++)

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

printf("Enter the maximum subset value:");

scanf("%d",&d);

for(i=1;i<=n;i++)

sum+=s[i];

if(sum<d || s[1]>d)

{

printf("No subset possible\n");

flag=1;

}

sumofsub(0,1,sum);

if(flag==0)

printf("no subset possible\n");

return 0;

}

void sumofsub(int m,int k,int r)

{

int i;

x[k]=1;

if((m+s[k])==d)

{

printf("{");

for(i=1;i<=k;i++)

if(x[i]==1)

{

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

flag=1;

}

printf("}");

printf("\n");

}

else

{

if(m+s[k]+s[k+1]<=d)

sumofsub(m+s[k],k+1,r-s[k]);

if((m+r-s[k]>=d) && (m+s[k+1]<=d))

{

x[k]=0;

sumofsub(m,k+1,r-s[k]);

}

}

}