# EXPERIMENT-4

# Aim: To find the number of pairs present in array that sum up to form a given element by user.

## Pseudo code

Function pairfortargetsum(arr, n, targetsum):

Initialize count to 0

For i from 0 to n-1:

For j from 0 to n-1:

If (targetsum equals arr[j] + arr[i]):

Increment count by 1

Return count

Read n from user input

Initialize an array arr of size n

For i from 0 to n-1:

Read arr[i] from user input

Read targetsum from user input

result = pairfortargetsum(arr, n, targetsum)

Print "No. of pairs are:", result

## Source code:

#include<iostream>

using namespace std;

int pairfortargetsum(int arr[],int n, int targetsum){

int count =0;

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

  for (int j=0;j<n;j++){

    if(targetsum ==arr[j]+arr[i]){

      count++;

    }

  }

}

return count;

}

int main(){

int n;

cin>>n;

int arr[n];

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

  cin>>arr[i];

}

int targetsum;

cin>>targetsum;

int result = pairfortargetsum(arr,n,targetsum);

cout<<"No. of pairs are : "<< result <<endl;

}

## Output:

**5**

**1 2 3 4 5**

**6**

**No. of pairs are : 5**

## Learning from experiment

* **Nested Loops:** Two nested loops iterate through the array to check pairs.
* **Counting Pairs:** Count variable tracks pairs that sum to the target.