

# Physical Wallha

## Arrays Part 2 Assignment Solution

Q1 - Given two vectors `arr1[]` and `arr2[]` of size `m` and `n` sorted in increasing order. Merge the two arrays into a single sorted array of size `m+n`.



```
File Edit Selection View Go Run ... + - VS Code
PROBLEMS DEBUG CONSOLE OUTPUT TERMINAL RUNS SEARCH FILTER
Warning: PowerShell detected that you might be using a screen reader and has disabled PSReadLine for compatibility purposes. If you want to re-enable it, run 'Import-Module PSReadLine'.
PS D:\VS Code> cd "d:\VS Code\C++\" ; if ($?) { g++ Array16.cpp -o Array16 } ; if ($?) { .\Array16 }
1 2 3 4 5 6 7 8 9 10
PS D:\VS Code\C++>
```

Q2 - Given a vector `arr[]` sorted in increasing order of `n` size and an integer `x`, find if there exists a pair in the array whose sum is exactly `x`.



```
File Edit Selection View Go Run ... + - VS Code
PROBLEMS DEBUG CONSOLE OUTPUT TERMINAL RUNS SEARCH FILTER
Warning: PowerShell detected that you might be using a screen reader and has disabled PSReadLine for compatibility purposes. If you want to re-enable it, run 'Import-Module PSReadLine'.
PS D:\VS Code> cd "d:\VS Code\C++\" ; if ($?) { g++ Array17.cpp -o Array17 } ; if ($?) { .\Array17 }
Pair found. (1, 9)
PS D:\VS Code\C++>
```

Q3 - Given a vector `arr[]` sorted in increasing order of `n` size and an integer `x`, find if there exists a pair in the array whose absolute difference is exactly `x`.

```
File Edit Selection View Go Run ... + - VS Code
PROBLEMS DEBUG CONSOLE OUTPUT TERMINAL PORTS SEARCH/BROWSE
Warning: PowerShell detected that you might be using a screen reader and has disabled PSReadline for compatibility purposes. If you want to re-enable it,
run 'Import-Module PSReadline'.

PS D:\VS Code> cd "d:\VS Code\C++\" ; if ($?) { g++ Array18.cpp -o Array18 } ; if ($?) { .\Array18 }
5
14
78
96
45
25
36
No such pair found
PS D:\VS Code\C++> cd "d:\VS Code\C++\" ; if ($?) { g++ Array18.cpp -o Array18 } ; if ($?) { .\Array18 }
5
87
96
65
86
96
87
No such pair found
PS D:\VS Code\C++> cd "d:\VS Code\C++\" ; if ($?) { g++ Array18.cpp -o Array18 } ; if ($?) { .\Array18 }
4
4
5
4
5
2
No such pair found
PS D:\VS Code\C++>
```

Q4 - Given a vector `arr[]` sorted in increasing order. Return an array of squares of each number sorted in increasing order. Where size of vector  $1 < \text{size} < 101$ .

```
File Edit Selection View Go Run ... + - VS Code
PROBLEMS DEBUG CONSOLE OUTPUT TERMINAL PORTS SEARCH/BROWSE
Warning: PowerShell detected that you might be using a screen reader and has disabled PSReadline for compatibility purposes. If you want to re-enable it,
run 'Import-Module PSReadline'.

PS D:\VS Code> cd "d:\VS Code\C++\" ; if ($?) { g++ Array19.cpp -o Array19 } ; if ($?) { .\Array19 }
5
2
4
6
8
18
4 16 36 64 100
PS D:\VS Code\C++>
```

Q5 - Given a vector `arr[]` sorted in increasing order of `n` size and an integer `x`, find the number of unique pairs that exist in the array whose absolute sum is exactly `x`.

```

File Edit Selection View Go Run ... VS Code
PROBLEMS DEBUG CONSOLE OUTPUT TERMINAL PORTS SEARCH INDEX
Warning: PowerShell detected that you might be using a screen reader and has disabled PSReadLine for compatibility purposes. If you want to re-enable it,
run 'Import-Module PSReadLine'.

PS D:\VS Code> cd "d:\VS Code\C++\" ; if ($?) { g++ Array20.cpp -o Array20 } ; if ($?) { .\Array20 }
Enter the size of the array: 5
Enter the elements of the array: 1
2
3
4
5
Enter the value of x: 7
The number of unique pairs is: 2
PS D:\VS Code\C++> cd "d:\VS Code\C++\" ; if ($?) { g++ Array20.cpp -o Array20 } ; if ($?) { .\Array20 }
Enter the size of the array: 5
Enter the elements of the array: 3
1
3
5
3
Enter the value of x: 6
The number of unique pairs is: 2
PS D:\VS Code\C++> cd "d:\VS Code\C++\" ; if ($?) { g++ Array20.cpp -o Array20 } ; if ($?) { .\Array20 }
Enter the size of the array: 3
Enter the elements of the array: 2
2
2
Enter the value of x: 4
The number of unique pairs is: 1
PS D:\VS Code\C++>

```

Q6 - Given a vector array `nums`, print the count of triplets `[nums[i], nums[j], nums[k]]` such that `i != j`, `i != k`, and `j != k`, and `nums[i] + nums[j] + nums[k] == x`. Where `k` is an integer given by the user.

```

File Edit Selection View Go Run ... VS Code
PROBLEMS DEBUG CONSOLE OUTPUT TERMINAL PORTS SEARCH INDEX
Warning: PowerShell detected that you might be using a screen reader and has disabled PSReadLine for compatibility purposes. If you want to re-enable it,
run 'Import-Module PSReadLine'.

PS D:\VS Code> cd "d:\VS Code\C++\" ; if ($?) { g++ Array21.cpp -o Array21 } ; if ($?) { .\Array21 }
Enter the target sum: 9
Count of triplets: 0
PS D:\VS Code\C++> cd "d:\VS Code\C++\" ; if ($?) { g++ Array21.cpp -o Array21 } ; if ($?) { .\Array21 }
Enter the target sum: 5
Count of triplets: 0
PS D:\VS Code\C++>

```