Two-Dimensional and Multi-Dimensional Arrays

Program: Add Alternate Elements of 2-D array

```
#include <stdio.h>
int main()
{
   int arr[3][3];
   for(int i=0; i<3; i++)
   {
    for(int j=0; j<3; j++)
    {
     scanf("%d", &arr[i][j]);
   }
   }
    int odd=0, even=0;
    for(int i=0; i<3; i++)
    {
     for(int j=0; j<3; j++)
      {
       if((i+j)%2 != 0)
         odd += arr[i][j];
       else
         even += arr[i][j];
      }
   }
   printf("%d\n%d", even, odd);
}
```

02/11/25

Sample Input	Sample Output
1 2 3 4 5 6 7 8 9	25 20

Program: The wealthy landlord

```
#include <stdio.h>
int main()
{
  int i,j, n, x1, x2, y1, y2, t = 0;
  long long total = 0;
  int area [1001][1001] = {0};
  scanf("%d", &n);
  while (n--)
  {
  scanf("%d %d %d %d %d", &x1, &y1,
& x2, &y2, &t);
  for (i = x1; i<= x2; i++)
  {
    for (j = y1; j <= y2; j++)
    {
      if (area [i][j] = 0)
        area [i][j] += t;
      else if (area [i][j] >0)
        area [i][j] = (-1) * (area [i][j] +t);
      else if (area [i][j] <0)
        area [i][j] -= t;
    }
  }
}
for (i=1; i<1001; i++)
{
 for(j=1; j<1001; j++)
 { if (area[i][j] < 0)
   total += area [i][j];
 }}
printf("%lld\n",
(-1)* total);
return 0;
}
```

Sample Input

```
1
48 12 49 27 8
```

Sample Output

```
0 8
```

02/1/25

Program: Peicouity interview

```
#include <stdio.h>
struct data
{
 int gen; int val;
};
int main()
{
  int n;
  scanf("%d", &n);
  struct data a[n];
  for(int i=0; i<n-1; i++)
  {
   for(int j=0; j<n-1; ++j)
   { if (a[j].val < a[j+1].val)
     { struct data temp=a[j];
      a[j] = a[j+1];
      a[j+1]= temp;
   } }
  }
  for (int i=0; i<n; i++)
  {
    if (a[i].gen == 0)
     printf("%d", a[i].val);
  }
  for (int i=0; i<n ; ++i)
  {if (a[i].gen == 1)
   printf("%d", a[i].val);
  }
}
```

Sample Input

```
5
0 3
1 6
0 2
0 7
1 15
```

Sample Output

```
7 3 2 15 6
```