Ques-C Program to Calculate Average Using Arrays?

```c
#include <stdio.h>

int main(){

    int n, i;

    float num[100], sum=0.0, average;

    printf("Enter the numbers of data: ");

    scanf("%d",&n);

    while (n>100 || n<=0)

    {

        printf("Error! number should in range of (1 to 100).\n");

        printf("Enter the number again: ");

        scanf("%d",&n);

    }

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

   {

       printf("%d. Enter number: ",i+1);

       scanf("%f",&num[i]);

       sum+=num[i];

   }

   average=sum/n;

   printf("Average = %.2f",average);

   return 0;

}
```

Ques2-C Program to Find Largest Element of an Array?

```
#include <stdio.h>
int main(){
    int i,n;
    float arr[100];
    printf("Enter total number of elements(1 to 100): ");
    scanf("%d",&n);
    printf("\n");
    for(i=0;i<n;++i)  /* Stores number entered by user. */
    {
        printf("Enter Number %d: ",i+1);
        scanf("%f",&arr[i]);
    }
    for(i=1;i<n;++i)  /* Loop to store largest number to arr[0] */
    {
        if(arr[0]<arr[i]) /* Change < to > if you want to find smallest
element*/
            arr[0]=arr[i];
    }
    printf("Largest element = %.2f",arr[0]);
    return 0;
}
```

Ques3-C Program to Add Two Matrix Using Multi-dimensional Arryas?

```c
#include <stdio.h>
int main(){
    int r,c,a[100][100],b[100][100],sum[100][100],i,j;
    printf("Enter number of rows (between 1 and 100): ");
    scanf("%d",&r);
    printf("Enter number of columns (between 1 and 100): ");
    scanf("%d",&c);
    printf("\nEnter elements of 1st matrix:\n");

/* Storing elements of first matrix entered by user. */

    for(i=0;i<r;++i)
        for(j=0;j<c;++j)
        {
            printf("Enter element a%d%d: ",i+1,j+1);
            scanf("%d",&a[i][j]);
        }

/* Storing elements of second matrix entered by user. */

    printf("Enter elements of 2nd matrix:\n");
    for(i=0;i<r;++i)
        for(j=0;j<c;++j)
        {
```

```
            printf("Enter element a%d%d: ",i+1,j+1);
            scanf("%d",&b[i][j]);
        }

/*Adding Two matrices */

   for(i=0;i<r;++i)
        for(j=0;j<c;++j)
            sum[i][j]=a[i][j]+b[i][j];

/* Displaying the resultant sum matrix. */

    printf("\nSum of two matrix is: \n\n");
    for(i=0;i<r;++i)
        for(j=0;j<c;++j)
        {
            printf("%d   ",sum[i][j]);
            if(j==c-1)
                printf("\n\n");
        }

    return 0;
}
```

Ques4-C Program to Multiply to Matrix Using Multi-dimensional Arrays?

```
#include <stdio.h>

int main()

{

    int a[10][10], b[10][10], mult[10][10], r1, c1, r2, c2, i, j, k;

    printf("Enter rows and column for first matrix: ");

    scanf("%d%d", &r1, &c1);

    printf("Enter rows and column for second matrix: ");

    scanf("%d%d",&r2, &c2);


/* If colum of first matrix in not equal to row of second matrix, asking
user to enter the size of matrix again. */

    while (c1!=r2)

    {

        printf("Error! column of first matrix not equal to row of
second.\n");

        printf("Enter rows and column for first matrix: ");

        scanf("%d%d", &r1, &c1);

        printf("Enter rows and column for second matrix: ");

        scanf("%d%d",&r2, &c2);

    }


/* Storing elements of first matrix. */

    printf("\nEnter elements of matrix 1:\n");
```

```
    for(i=0; i<r1; ++i)
    for(j=0; j<c1; ++j)
    {
        printf("Enter elements a%d%d: ",i+1,j+1);
        scanf("%d",&a[i][j]);
    }

/* Storing elements of second matrix. */
    printf("\nEnter elements of matrix 2:\n");
    for(i=0; i<r2; ++i)
    for(j=0; j<c2; ++j)
    {
        printf("Enter elements b%d%d: ",i+1,j+1);
        scanf("%d",&b[i][j]);
    }

/* Initializing elements of matrix mult to 0.*/
    for(i=0; i<r1; ++i)
    for(j=0; j<c2; ++j)
    {
       mult[i][j]=0;
    }

/* Multiplying matrix a and b and storing in array mult. */
    for(i=0; i<r1; ++i)
```

```
    for(j=0; j<c2; ++j)
    for(k=0; k<c1; ++k)
    {
        mult[i][j]+=a[i][k]*b[k][j];
    }

/* Displaying the multiplication of two matrix. */
    printf("\nOutput Matrix:\n");
    for(i=0; i<r1; ++i)
    for(j=0; j<c2; ++j)
    {
        printf("%d  ",mult[i][j]);
        if(j==c2-1)
            printf("\n\n");
    }
    return 0;
}
```