```
//matrix chain multiplication
#include <limits.h>
#include <stdio.h>

// Matrix Ai has dimension p[i-1] x p[i] for i = 1..n
int MatrixChainOrder(int p[], int i, int j)
{
	if (i == j)
		return 0;
	int k;
	int min = INT_MAX;
	int count;



	for (k = i; k < j; k++)
	{
		count = MatrixChainOrder(p, i, k)
				+ MatrixChainOrder(p, k + 1, j)
				+ p[i - 1] * p[k] * p[j];


		if (count < min)
			min = count;
	}

	// Return minimum count
	return min;
}

// Driver code
int main()
{
	int arr[] = { 1, 2, 3, 4, 3 };
```

```
    int n = sizeof(arr) / sizeof(arr[0]);

    printf("Minimum number of multiplications is %d ",
            MatrixChainOrder(arr, 1, n - 1));

    getchar();
    return 0;
}
```

Output: