```
2006167 - Auxit Srivastawa
#include ziospream>
Using namespace std;
void input (int *arr, int n);
void display(intxorr, int n);
void add(int *ar, int *pr, int n, int m);
void sub (sut *ar, jut *pr, jut n, jut m);
vold multiply (int *ar, int *pr, int ", int m);
    cout « Enter no. of termy in polynomial 1$2:";
int main() f
    int n, m;
     int *p = (int *) malloc (n * size of (int));
     int ×q = lint x) maltoc (m x size of (int));
      input (p, n);
      input (q, m);
      display (p,n);
     displacy (q,m);
     add (p, q, m, m);
     sub ( p, q, n, m);
      multiply (p, q, n, m);
      delete p, vi
      return 0;
void input (int *ar, int n) f
      cout << " Suter terms: W;
      tor ( int i = 0 ; ixn; i++) {
           cout << "coeff of n^" << i < " :";
            ain>> ar[i];
       cout 22 end 1;
```

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```
void display (int xor, int n) ?
                                                   torlint i=0; izu; itt)?
                                                                                                  cout ccar[i] Zz'n^"zzi;
                                                                                                     if( i!= n-1) i

cout << " + ";
                                                           cout 22 end1 22 end1;
void add (int *ar, int *pr, int n, int m) i
                                             int size = m>n?m:n;
                                                 int *sum = new int[si3e];
                                                  tor lint i=0; izsi3e; i++)
                                                                                            sum[i] =0;
                                                                                                                                                                                                                                                 Truck E Time!
                                                       for (inti=0;i=n;i+t)}
                                                                  svm[i] = av[i]j
                                                             for (inti=0; i<m;i++)
                                                                                                         sum[i] += pr[i];
                                                           couter "After Addition: \";
                                                          display (svm, size);
                                                                                                                                        AND THE STATE OF T
                                                          de lete sum;
                                                                                                      A A STATE OF THE REAL PROPERTY AND A STATE OF THE PARTY AND A STATE OF
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Void sub (int xar, int *pr, int n, int m) {
     int size = m>n?m:n;
     int Asvm = new int [size];
     for (int i=0; 125is; 1++)
           sum[i] = 0;
      tor (int i=v ; i < n ; i+t)
            svm[i] = ar[i];
       for (int i=0; i zm j itt)
           svm[i] -= pr[i];
      cout 22" After subtraction: \";
      display(svm, size);
      delete sum;
                  Altri : wall oright And
void multiply (int *ar, int *pr, int n, int m) {
      int size = m+n-1; inv
      int +mul = new int[size];
      tor ( Int 1=0; izsise; i++)
             mul[i] = 0;
                      Copie don Imiga
       for (inti=0; i<n; i++)f
            tor(intj=0;j~m;j++)?
                  mul[i+j] += 97[i]* p/[j];
       cout << " After Hultiplication: \";
       display (mul, size);
       de lete mul;
```

OUTPUT:

```
Enter no. of terms in polynomial 1 & 2: 3 4
Enter terms:
Coeff of x^0: 10
Coeff of x^1:0
Coeff of x^2 : 5
Enter terms:
Coeff of x^0 : 2
Coeff of x^1:10
Coeff of x^2: 10
Coeff of x^3:1
10x^0 + 0x^1 + 5x^2
2x^0 + 10x^1 + 10x^2 + 1x^3
After Addition:
12x^0 + 10x^1 + 15x^2 + 1x^3
After Subtraction:
8x^0 + -10x^1 + -5x^2 + -1x^3
After Multiplication:
20x^0 + 100x^1 + 110x^2 + 60x^3 + 50x^4 + 5x^5
PS T:\C++\CPP\3rd SEM\DSA Assignment\1>
```

IDE Code: (Same as above written):

```
#include <iostream>
using namespace std;
void input(int *ar, int n);
void display(int *ar, int n);
void add(int *ar, int *pr, int n, int m);
void sub(int *ar, int *pr, int n, int m);
void multiply(int *ar, int *pr, int n, int m);
int main()
    int n, m;
    cout << "Enter no. of terms in polynomial 1 & 2: ";</pre>
    cin >> n >> m;
    int *p = (int *)malloc(n * sizeof(int));
    int *q = (int *)malloc(m * sizeof(int));
    input(p, n);
    input(q, m);
    display(p, n);
    display(q, m);
    add(p, q, n, m);
    sub(p, q, n, m);
```

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multiply(p, q, n, m);
    delete p, q;
    return 0;
void input(int *ar, int n)
    cout << "Enter terms: \n";</pre>
    for (int i = 0; i < n; i++)
        cout << "Coeff of x^" << i << " : ";</pre>
        cin >> ar[i];
    cout << endl;</pre>
void display(int *ar, int n)
    for (int i = 0; i < n; i++)
        cout << ar[i] << "x^" << i;</pre>
        if (i != n - 1)
            cout << " + ";
    cout << endl</pre>
         << endl;
void add(int *ar, int *pr, int n, int m)
    int size = m > n ? m : n;
    int *sum = new int[size];
    for (int i = 0; i < size; i++)
        sum[i] = 0;
    for (int i = 0; i < n; i++)
        sum[i] = ar[i];
    for (int i = 0; i < m; i++)
        sum[i] += pr[i];
    cout << "After Addition: \n";</pre>
    display(sum, size);
    delete sum;
```

```
void sub(int *ar, int *pr, int n, int m)
    int size = m > n ? m : n;
    int *sum = new int[size];
    for (int i = 0; i < size; i++)
        sum[i] = 0;
    for (int i = 0; i < n; i++)
        sum[i] = ar[i];
    for (int i = 0; i < m; i++)
        sum[i] -= pr[i];
    cout << "After Subtraction: \n";</pre>
    display(sum, size);
    delete sum;
void multiply(int *ar, int *pr, int n, int m)
    int size = m + n - 1;
    int *mul = new int[size];
    for (int i = 0; i < size; i++)
        mul[i] = 0;
    for (int i = 0; i < n; i++)
        for (int j = 0; j < m; j++)
            mul[i + j] += ar[i] * pr[j];
        }
    cout << "After Multiplication: \n";</pre>
    display(mul, size);
    delete mul;
```