

X


<https://swayam.gov.in>

[https://swayam.gov.in/nc\\_details/NPTEL](https://swayam.gov.in/nc_details/NPTEL)

reviewer4@nptel.iitm.ac.in ▾

**NPTEL** (<https://swayam.gov.in/explorer?ncCode=NPTEL>) » **An Introduction To Programming Through C++**  
(course)

Announcements (announcements)

**About the Course** ([https://swayam.gov.in/nd1\\_noc20\\_cs53/preview](https://swayam.gov.in/nd1_noc20_cs53/preview)) Ask a Question (forum)

Progress (student/home) Mentor (student/mentor)

## Week 2 Programming Assignment 2

**Due on 2020-02-12, 23:59 IST**

### Course outline

#### How does an NPTEL online course work?

#### Week 0

#### Week 1

#### Week 2

- ☒ Lecture 3 Part 1 : Basic Elements of Program (unit? unit=27&lesson=37)
- ☐ Lecture 3 Part 2 : Basic Elements of Program (unit? unit=27&lesson=38)
- ☐ Lecture 3 Part 3 : Basic Elements of Program (unit? unit=27&lesson=39)

Solve problem 5 of chapter 4.

As input, you are given an integer  $n$ , a double  $x$ , followed by  $n+1$  doubles  $a_n, a_{n-1}, \dots, a_0$ . You are to print the value of the polynomial  $a_0 + a_1x + a_2x^2 + \dots + a_nx^n$ .

Here is the manual algorithm. At the beginning you just have read  $a_n$ . Next you read  $a_{n-1}$  and calculate  $a_nx + a_{n-1}$ . Next you read  $a_{n-2}$  and calculate  $(a_nx + a_{n-1})x + a_{n-2}$ . So after  $n$  iterations you will have the value of the polynomial above. Note that in each iteration you need to use the values calculated earlier.

Check that you understand the method by calculating manually for small values of  $n$ . This is not to be submitted, nor put in a program.

Write the program. You will need to decide what variables to use, what to store in them. Test your program as much as you can before submitting it.

#### Sample Test Cases

	Input	Output
Test Case 1	4 3 2 3 4 5 6	300
Test Case 2	2 3 3 2 1	34

The due date for submitting this assignment has passed.  
As per our records you have not submitted this assignment.

○ Lecture 3 Part  
4 : Basic  
Elements of  
Program (unit?  
unit=27&lesson=40)

○ Lecture 4 Part  
1 : Program  
Design (unit?  
unit=27&lesson=42)

○ Lecture 4 Part  
2 : Program  
Design (unit?  
unit=27&lesson=41)

○ Lecture 4 Part  
3 : Program  
Design (unit?  
unit=27&lesson=43)

○ Lecture 5 :  
Simple cpp  
Graphics (unit?  
unit=27&lesson=44)

○ Quiz : Week 2  
- Assignment 2  
(assessment?  
name=166)

○ Week 2  
Programming  
Assignments 1  
(/noc20\_cs53/progassignment?  
name=168)

○ **Week 2**  
**Programming**  
**Assignment 2**  
(/noc20\_cs53/progassignment?  
name=169)

○ Download  
Videos (unit?  
unit=27&lesson=178)

○ Weekly  
Feedback  
(unit?  
unit=27&lesson=190)

Sample solutions (Provided by instructor)

```

1 #include <iostream>
2 #define repeat(x) for(int _iterator_i = 0, _iterator_limit = x; _itera
3 #define main_program int main()
4 #include <cmath>
5 using namespace std;
6 main_program{
7     int n;
8     double x;
9     double poly=0, coeff=0;
10    cin >> n;
11    cin >> x;
12    repeat(n+1){
13        cin >> coeff;
14        poly = poly*x + coeff;
15    }
16    cout << poly <<endl;
17 }
```

**Week 3**

**Week 4**

**Week 5**

**Week 6**

**Week 7**

---

**Week 8**

---

**Week 9**

---

**Week 10**

---

**Week 11**

---

**Week 12**

---

**Text Transcripts**