Late homework will not be accepted.

Name: SOLUTION SHEET

Read chapter 8.

Write a function that will calculate

\[ f(x) = a_0 + a_1 x + a_2 x^2 + \ldots + a_{N-1} x^{N-1} = \sum_{i=0}^{N-1} a_i x^i \]

where the \( a_i \)'s are constants. The function has three arguments: a real variable representing \( x \), a real array representing the constant coefficients (the first element represents \( a_0 \) and the last \( a_{N-1} \)), and an integer variable specifying the number of terms. We want to be efficient, so your function should not use exponentiation (there is no need for it).

```c
C......
C Function to calculate
C f(x) = a(1) + a(2)*x + a(3)*x^2 + \ldots + a(n)*x^(n-1)
C where "a" is an array of n elements and x is the evaluation
C point.
C......
real function f(x,a,n)
  implicit none
  integer i, n
  real x, a(n)

C......
C Initialize f with last element of array and build things up in
C reverse order from there (multiplying by x each time we add a
C term to bump up the order).
C......
f = a(n)
do i = n-1,1,-1
  f = a(i) + x*f
endo
return
end
```