CE 108 – Computer Project Number 7
Due On or Before Wednesday, February 23, 2005

Improve the Fortran and C code of Computer Project 5 by hiding the codes of the series summation in separate functions, besselj0 and besselj1.

In Fortran, the first line of the functions should be

```fortran
real function besselj0(x)
real function besselj1(x)
```

In C, the first line of the functions should be

```c
float besselj0(float x)
float besselj1(float x)
```

Although it is less efficient to calculate those two series separately, it is more convenient for the user of the functions. For example, \(\sin x\) and \(\cos x\) can be calculated easily together because \(\cos x = \sqrt{1 - \sin^2 x}\), but most user would rather use them separately.

Modify the main programs of Computer Project 5 to (a) prompt for the input value of \(x\), (b) call the functions to obtain the values of the functions, and (c) output the values to the monitor.