NUMERICAL ANALYSIS
PROGRAM SET B

PAUL L. BAILEY

ABSTRACT. Create the following programs using Visual C++.

The following programs use the type `FNP` defined by this code:

```
typedef double (*FNP)(double);
```

Program 1. Create a function to find a root of a function via the bisection method.
Syntax: `double bisect(FNP f,double x1,double x2)`
where `bisect` is the name of the function, `f` is a pointer to a function, `x1` and `x2` are the endpoints of an interval, and the return value is the root.

Program 2. Create a function to find a root of a function via the secant method.
Syntax: `double secant(FNP f,double x1,double x2)`
where `secant` is the name of the function, `f` is a pointer to a function, `x1` and `x2` are the endpoints of an interval, and the return value is the root.
    By the secant method, I mean the method referred to in class as `chordal`; the method known as the secant method in the book is slightly different.

Program 3. Create a function to find a root of a function via Newton's method.
Syntax: `double newton(FNP f,FNP df,double x0)`
where `newton` is the name of the function, `f` is a pointer to a function, `df` is a pointer to the derivative of `f`, and `x0` is a seed point.

DEPARTMENT OF MATHEMATICS AND CSCI, SOUTHERN ARKANSAS UNIVERSITY
    E-mail address: `plbailey@saumag.edu`