

Monday 3 November

Programming Assignment 07: due Wednesday 5 November

Class Activity 20:

Objectives:

Learn about function prototype/calling statement agreement.
Simple trace through functions.

Activity 1:

Given the following function prototypes

```
int Middling( int Int1, int Int2 );
int Done( void );
float Distance( float X, float Y, float Z );
void Simple( float Alfa, float Beta,
            float *pGamma, int *pSimpleFlag );
void Complex( int SmallInt, int LargeInt,
              float FirstReal, int SecondReal,
              int *pBiggestInt, float *pMidReal );
void QuadRoot( float A, float B, float C,
               float *pX1, float *pX2 );
void MakeAMove( int OldX, int OldY,
                int *pNewX, int *pNewY );
```

and the following variable declarations in main

```
float Alfa, Beta, Gamma;
float X, Y, Z;
int Uno, Dos, Tres;
float X1, X2;
int IntX, IntY;
int ResultsOK, DoneFlag; // logical flags
```

which of the following are legitimate calls to subprograms from the control subprogram? If a call is not legitimate, state why.

- (a) Simple(Alfa, Beta, Gamma, &ResultsOK);
- (b) Done() = DoneFlag;
- (c) Int1 = Middling(Int1, Int2);
- (d) Alfa = Distance(X, Y, Z);
- (e) Complex(Uno, Dos, &Alfa, &Beta, &Int1, &Gamma);
- (f) X1 = Middling(Uno, Dos);
- (g) QuadRoot(X, Y, Z, X1, X2);
- (h) Complex(Int1, Middling(Int1,Int2), X1, X2,
 Tres, &Beta);
- (i) DoneFlag = Done;
- (j) MakeAMove(1, 45, &Tres, &Dos);

- (k) `X = Distance(Alfa, Done(), Gamma);`
- (l) `Simple(X, X1, &Y, &X2);`
- (m) `MakeAMove(Tres, Dos, 345, 871);`
- (n) `Simple(1.0, 2.0, &Gamma, Done());`
- (o) `MakeAMove(Int1, Int2, &Uno, Done());`
- (p) `QuadRoot(Alfa, Beta, Gamma, &IntX, &IntY);`
- (q) `QuadRoot(Uno, Dos, Tres, &X1, &X2);`
- (r) `QuadRoot(A, B, &X1, &X2);`
- (s) `MakeAMove(Middling(Int1,Int2), Middling(Uno,Dos),
&Int1, &Int2);`
- (t) `Complex(1, Tres, 3.4, Gamma, 5, &Beta);`
- (u) `Simple(Distance(X,Y,Z), Distance(Alfa,Beta,Gamma), &Z,
&DoneFlag);`
- (v) `Complex(512, Int2, 1.345e15, &Int1, &Alfa);`

Activity 2:

Copy `ca20a.cpp` from `get12` to `c:\user`. Load it into a Visual Studio project called `ca20a`. Answer the following questions.

- (a) What will be displayed on the screen? Show how you determined this.
- (b) Check your predictions by running the program.

Activity 3:

Copy `ca20b.cpp` from `get12` to `c:\user`. Load it into a Visual Studio project called `ca20b`. Answer the following questions.

- (a) What will be displayed on the screen? Show how you determined this.
- (b) Check your predictions by running the program.

Turn in: Your handwritten answers to activities 1, 2 & 3.