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

```c
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

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

Activity 2:
Copy \text{ca20a.cpp} from get12 to c:\user. Load it into a Visual Studio project called \text{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 \text{ca20b.cpp} from get12 to c:\user. Load it into a Visual Studio project called \text{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.