MEE 333 Assignment 1

(done by: Devdhar Kodiatar)

Exercise:

18. The compiler undergoes 4 steps:

    Preprocessing: The preprocessor works on the header files of the code and removes the comment lines among other things. The output of the preprocessor is an equivalent .c source file.

    Compiling: The output is assembly code specific to the processor.

    Assembling: The assembler takes the assembly code and produces an object code (machine level code).

    Linking: The linker takes all the relevant object codes produced and creates a single executable file.

19. The main function's return type is int. This return value can indicate whether or not the program has been terminated successful or not.

21. (a). 140

    (b). 4 (Overflow)

    (c). 24 (Overflow)

22. (a). 0

    (b). 0.6667

    (c). 0

    (d). 3

    (e). 3

    (f). 3

27. Since the program consists of many functions, the goal would be to identify which function is returning the wrong value. This can be done by following the flow of control and printing the input and output variables of each function. Once the function is identified, only a couple of lines of code need to be checked for the error instead of the whole program, which saves a lot of time.

28. invest.c included.

30. (a). 3

(b). 4

(c). 2

(d). 6

(e). error/unknown.

(f). error/unknown.

(g). 2

31. i = 5. 3*(5>1) evaluates to 3. k=2 changes the value of k to 2. Therefore, k==6 evaluates to FALSE.

i = 3+2+0 = 5

32. (a). 0xF2

(b). 0x01

(c). 0x0F

(d). 0x0E

(e). 0x01

(f). 0x68

(g). 0x00

34. ascii.c attached.

35. bubble.c attached.