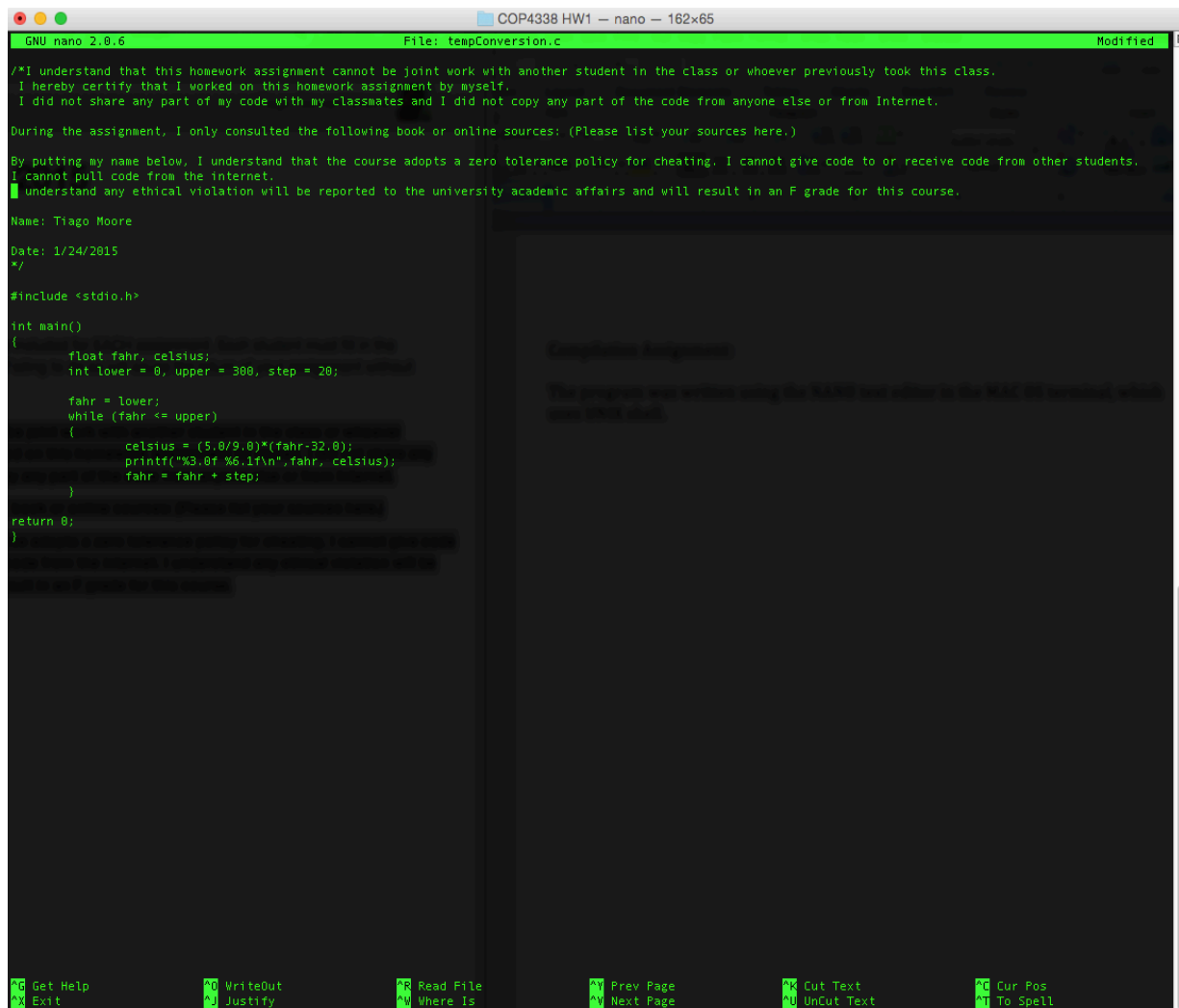


1) Ten Major Differences Java to C

- C can be considered a low level language
- C does not have any object-oriented programming
- C allows for procedural and functional programming.
- In Java, all types are always passed by value in a function and C supports passing by pointers, reference, and value.
- Memory management. Java implements a garbage collector, and in c memory management is done manually with the new and delete key words.
- C allows for external variable declaration using #define
- There are a lot less libraries than in java, so there are no operations that manipulate an entire array or string.
- C provides to input and output facilities; there are no read or write statements.
- There are no built-in file access methods
- There is no multiprocessing, parallel operations, synchronization or coroutines.

#2)



The screenshot shows a nano text editor window titled "COP4338 HW1 - nano - 162x65". The editor is displaying a C program named "tempConversion.c". The program includes a header section with a disclaimer and a main function that converts Fahrenheit to Celsius. The code is as follows:

```
GNU nano 2.8.6 File: tempConversion.c Modified

/*I understand that this homework assignment cannot be joint work with another student in the class or whoever previously took this class.
I hereby certify that I worked on this homework assignment by myself.
I did not share any part of my code with my classmates and I did not copy any part of the code from anyone else or from Internet.

During the assignment, I only consulted the following book or online sources: (Please list your sources here.)

By putting my name below, I understand that the course adopts a zero tolerance policy for cheating. I cannot give code to or receive code from other students.
I cannot pull code from the internet.
I understand any ethical violation will be reported to the university academic affairs and will result in an F grade for this course.

Name: Tiago Moore
Date: 1/24/2015
*/

#include <stdio.h>

int main()
{
    float fahr, celsius;
    int lower = 0, upper = 300, step = 20;

    fahr = lower;
    while (fahr <= upper)
    {
        celsius = (5.0/9.0)*(fahr-32.0);
        printf("%3.0f %6.1f\n", fahr, celsius);
        fahr = fahr + step;
    }

    return 0;
}
```

The bottom of the window shows a status bar with various keyboard shortcuts: Get Help, Exit, WriteOut, Justify, Read File, Where Is, Prev. Page, Next. Page, Cut Text, UnCut Text, Cur. Pos, and To Spell.

The Program sucessully ran:

```
preprocessor - Wikipedia, the free encyclopedia  COP4338 HW1 — bash — 162x65
Ts-MacBook-Pro:~$ ls
a.out tempConversion.c
Ts-MacBook-Pro:~$ pwd
/Users/tmoore/Documents/School/FIU/Junior Year/Spring 2015/COP4338/COP4338 HW1
Ts-MacBook-Pro:~$ ls -l
total 32
-rwxr-xr-x  1 tmoore  staff  8456 Jan 24 19:00 a.out
-rw-r--r--  1 tmoore  staff  1099 Jan 24 19:05 tempConversion.c
Ts-MacBook-Pro:~$ cat tempConversion.c
a.out tempConversion.c
/*I understand that this homework assignment cannot be joint work with another student in the class or whoever previously took this class.
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I did not share any part of my code with my classmates and I did not copy any part of the code from anyone else or from Internet.

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Name: Tiago Moore
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    fahr = lower;
    while (fahr <= upper)
    {
        celsius = (5.0/9.0)*(fahr-32.0);
        printf("%3.0f %6.1f\n",fahr, celsius);
        fahr = fahr + step;
    }

    return 0;
}

Ts-MacBook-Pro:~$ ./a.out
0 -17.8
20 -6.7
40 4.4
60 15.6
80 26.7
100 37.8
120 48.9
140 60.0
160 71.1
180 82.2
200 93.3
220 104.4
240 115.6
260 126.7
280 137.8
300 148.9
Ts-MacBook-Pro:~$
```

3)

Changed code to implement a do while loop:

```

Last login: Sat Jan 24 19:12:07 on ttys000
Ts-MacBook-Pro:~ tmoore$ cd Documents/School/FIU/Junior\ Year/Spring\ 2015/COP4338/COP4338\ HW1/
Ts-MacBook-Pro:~ tmoore$ cd COP4338\ HW1
Ts-MacBook-Pro:~ tmoore$ cat tempConversion.c
/*I understand that this homework assignment cannot be joint work with another student in the class or whoever previously took this class.
 I hereby certify that I worked on this homework assignment by myself.
 I did not share any part of my code with my classmates and I did not copy any part of the code from anyone else or from Internet.

During the assignment, I only consulted the following book or online sources: (Please list your sources here.)

By putting my name below, I understand that the course adopts a zero tolerance policy for cheating. I cannot give code to or receive code
from other students.
I cannot pull code from the internet.
I understand any ethical violation will be reported to the university academic affairs and will result in an F grade for this course.

Name: Tiago Moore
Date: 1/24/2015
*/

#include <stdio.h>

int main()
{
    float fahr, celsius;
    int lower = 0, upper = 300, step = 20;

    fahr = lower;
    do
    {
        celsius = (5.0/9.0)*(fahr-32.0);
        printf("%3.0f %6.1f\n", fahr, celsius);
        fahr = fahr + step;
    }
    while (fahr<= upper);

    return 0;
}

Ts-MacBook-Pro:~ tmoore$
```

The program successfully ran and compiled.

```

Ts-MacBook-Pro:~ tmoore$ gcc tempConversion.c
Ts-MacBook-Pro:~ tmoore$ ./a.out
 0  -17.8
20  -6.7
40   4.4
60  15.6
80  26.7
100 37.8
120 48.9
140 60.0
160 71.1
180 82.2
200 93.3
220 104.4
240 115.6
260 126.7
280 137.8
300 148.9
Ts-MacBook-Pro:~ tmoore$
```