CS 1428
Lab 6 Section 19

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Topic

Today we are discussing the `while` loop and the `do while` loop. These two loops have very similar behavior with the only difference being that the `do while` loop will always execute once before checking its condition.

```cpp
/*
 * Two different examples using while loops to check user input.
 * Each is subtly different
 */


 // First example
cout << "Please pick a number between 1 and 10: ";
cin >> theNumber;

while (theNumber < 1 || 10 < theNumber) {
   cout << theNumber << " is not between 1 and 10, try again.\n";
   cout << "Please pick a number between 1 and 10: ";
   cin >> theNumber;
}

// Second example
do {
   cout << "Please enter a number between 1 and 10: ";
   cin >> theNumber;
   cout << endl;
} while (theNumber < 1 || 10 < theNumber);
```

Programming Task

You will write a program that prompts the user to enter several grades. As long as the grades entered are valid ($0 \leq$ grade ≤ 100) the user will be able to continue entering more grades. Once grade entry is complete the average should be calculated and displayed. Then the user is offered a choice to enter another set of grades or exit the program.

You will probably want two loops, one to handle the overall program, and one to handle getting grades. It will be necessary to keep track of the number of grades entered as well.

Be sure to prompt the user where appropriate, always assume the user does not know the purpose of the program.

Print out your source code and staple to the back of this page. Also upload your source file through the homework upload utility.