Extra Credit Homework

cs3157 – Advanced Programming
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Due at final.

1. Here is a sample perl program:

```perl
#!/usr/bin/perl

$count = 1;
$correct = 0;

print "Welcome to the Addition Quiz. \n";

while ($count <= 10) {
    $one = int(rand(100) - 50);
    $two = int(rand(100) - 50);
    print "Question $count: What is $one + $two?\n";
    print "    Answer: ";
    $answer = <STDIN>;
    if ($answer == $one + $two) {
        $correct += 1;
        print "Very good, that was the answer.\n";
    } else {
        print "Sorry. The right answer was: ",
            ($one + $two) , "\n";
    }
    $count += 1;
}

print "End of quiz. Thanks for your interest.\n";

print "Your score is: $correct out of ",
    ($count - 1), "\n";
```

a. Explain the program line by line.

b. Implement an equivalent program in php.
2. What would you probably first do before using Perl's "seek" function?

3. How is compiling and running a perl script different that compiling and running a c program.

4. If you use the statement: "($cat, @dogs, $gerbil) = (1, 3, 5, 7, 9, 11);" what will end up in each of the variables: $cat, @dogs, and $gerbil?
5. What might be potentially dangerous about the following C++ fragment? (Hint: virtual methods.)

```cpp
class Xstream {
public:
    Xstream() {}  
    ~Xstream() {}  
    virtual int getChar() = 0;
};

class ifXstream : public Xstream {
    protected:
        int fileDesc;
    public:
        ifXstream(const char * fileName);
        ~ifXstream();
        int getChar();
};

ifXstream::ifXstream(const char * fn) {
    fileDesc = open(fn, O_RDONLY);
}

ifXstream::~ifXstream() {
    close(fileDesc);
}
int ifXstream::getChar() {
    // getChar on files
    // implemented here
}
```
6. PHP has many useful built in methods, use the web to find the information, but you need to word it in your own words. Please give a brief explanation of the following:

   a. htmlspecialchars

   b. chop

   c. count_chars

   d. ucfirst

   e. implode

   f. parse_str