

CMSC 106 Quiz 3 Worksheet

The next quiz for the course will be on Fri, Oct 30. The following list provides additional information about the quiz:

- The quiz will be a written quiz (no computer).
- Closed book, closed notes quiz.
- Answers must be neat and legible.
- Quiz instructions can be found at <http://www.cs.umd.edu/~nelson/classes/utilities/examRules.html>

The following exercises cover the material to be included in this quiz. Solutions to these exercises will not be provided, but you are welcome to discuss your solutions with the TA or instructor during office hours. It is recommended that you try these exercises on paper first (without using the computer).

Exercises

1. What is the difference between a parameter and a local variable?
2. What is the difference between a parameter and an argument?
3. What are the advantages associated with functions?
4. What are the disadvantages associated with global variables?
5. Can we use the same names for local variables in two different functions?
6. Write a function that computes the factorial of a number. For example, factorial of 4 (4!) is 24.
7. Write a function that returns the sum of odd numbers between min (inclusive) and max (inclusive). The program will receive min and max values as parameters and return the sum. You can assume min and max are integer values.
8. Write a function called **histogram** that displays the histogram associated with 4 parameter values. For example, calling `histogram(2, 5, 4, 1, "**")` will display the histogram below. Notice the function receives a character to use for the generation of the histogram.

```
**  
*****  
****  
*
```

Use for loops to implement your solution.

9. What is a pointer?
10. What is a pointer variable?
11. Why we need to specify the type of a pointer variable?
12. Which of the following variables occupies the largest number of bytes?

```
char *p;  
int *q;  
double *m;
```

13. What does the name of an array represent?
14. Write a function that prints the elements of an array that are divisible by 4. The function receives an array as a parameter. Feel free add any parameters you understand are needed.