Quiz 06 - Master Theorem

Instructions:

- **Your submissions must be submitted in the Quiz06 directory of your Quizzes directory in your GitHub repository.**

- **Cheating of any kind is prohibited and will not be tolerated.**

- **Violating and/or failing to follow any of the rules will result in an automatic zero (0) for the lab.**

TO ACKNOWLEDGE THAT YOU HAVE READ AND UNDERSTOOD THE INSTRUCTIONS ABOVE, AT THE BEGINNING OF YOUR SUBMISSION(S), ADD A COMMENT THAT CONSISTS OF YOUR NAME AND THE DATE

Grading

Question	Maximum Points	Points Earned
1	0.1	
2	0.1	
3	0.1	
4	0.1	
5	0.1	
Total	0.5	

Question 1: The Master Theorem is a method primarily used to determine the runtime of which category of algorithms?

Question 2: In the Master Theorem's recurrence relation $T(n) = aT(b/n) + f(n)$, what does the term a represent?

Question 3: The Master Theorem determines the asymptotic behavior of a recurrence by comparing the function $f(n)$ to which other function?

Question 4: For Case 3 of the Master Theorem to apply, where $T(n) = \Theta(f(n))$, what additional 'regularity condition' must be met for sufficiently large n?

Question 5: What is the time complexity of $T(n) = 2T(n/2) + O(n)$ according to the Master Theorem?