Question 1:
Consider the following recursive function:

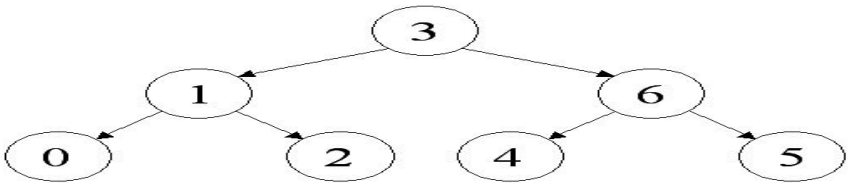
```
void qq(int n){
     int i; int x;
     if(n<=0) return;
     qq(n/2);
     for(i=0;i < n;++i) cout << "*";
     cout << " ";
}
```

If qq(8) is called, the output is

Choose the correct answer:

- * ** **** ********
- ******** ****
- ******** **** ** *
- * * * * * * * *
- none of the above

Question 2:
Which insert sequence resulted in the following simple binary search tree?



Choose the correct answer:

- 3614205
- 3102645
- 3162405
- All of the above insert sequences would work.
- None of the above

Question 3:
You write a hash table implementation that uses separate chaining. Which probe technique is most efficient:

Choose the correct answer:

- logarithmic probing
- It doesn't matter, because you only probe into the table one time
- quadratic probing
- double hashing
- Linear probing

Question 4:
Which is true of a min priority queue implemented as a heap?

Choose the correct answer:

- It must be able to handle interleaved inserts and deleteMins. (Interleaved

means some inserts, some deletes, more inserts, more deletes, etc.)

- It keeps the values in sorted order.
- The priority queue can handle a set of inserts followed by a set of deleteMins.
- It requires the use of pointers
- None of the above

Question 5:
What is the best description of the asymptotic running time of QuickSort?

Choose the correct answer:

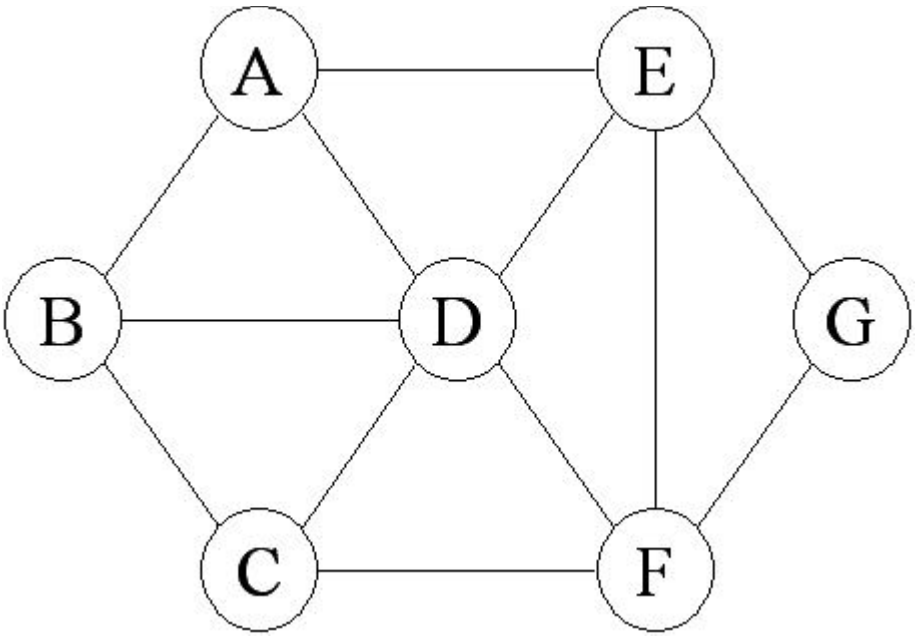
- $O(2^n)$
- $O(n^2)$
- $O(n)$
- $O(n^{(\log n)})$
- $O(n \log n)$

Question 6:
Which of the following properties is not required for an equivalence relation?

Choose the correct answer:

- Reflexive
- Transitive
- All of these properties are required
- Symmetric
- None of these properties are required

Question 7:
In the following graph, which of the following is NOT a simple path from B to G?



Choose the correct answer:

- BDEG
- BADCFEG
- BDFEG
- BDCFDEG
- They are all simple paths