1. What is your work authorization status, i.e., are you legally able to work in the United States?

   I am on F-1 Visa and I'll have OPT for 36 months and I'll be needing H1B sponsorship in the future

2. What's the difference between a stack and a queue?

   Stack is a collection of elements following LIFO (Last In First Out) which means the last element is popped. Previous elements cannot be accessed until the latest element is not popped.

   Queue is also a collection of elements following FIFO (First In First Out) which means the first element inserted is the first element popped. Latest element cannot be popped until all the elements are popped

3. What is the average case complexity of a hash table lookup?

   Time: O(1)
   Space: O(n)

4. What is the worst case complexity of a hash table lookup?

   Time: O(n)
   Space: O(n)

5. What is the complexity of bubble sort?

   Worst Case: $O(n^2)$
   Average Case: $O(n^2)$
   Best Case: O(n)

6. What is the number after 'F' in hexadecimal?

   10

7. In Linux, how do you check if a program is running?

   ps -ef | grep {{program_name}}

8. What is the command for making a file executable by anyone?

   chmod +x dummy_file

9. In a database, how do you count the number of rows in a table called 'users'?

   select count(*) from users;

10. Implement the following as pseudo-code: given a string, output a list of unique words and the number of times each word exists in the string.

```
function unique(input):
        words = input.split()
        unique_words= set(words)
        d={}
        for x in words:
                d[x]=d.get(x,0)+1
```

print “Unique Words: ”, unique words
print “Count: “,d

11. What is Occam's razor and how might it apply to software engineering?

    Occam’s razor states that “simplest solution is almost always the best solution”.

    It is applied to software engineering in design wherein if you have two designs which solves overall the same function them Occam’s razor recommends choosing the simpler function. While designing any product one should try to minimize as many elements as they can without compromising overall function making it simpler.