1.

a. Functional Suitability: The degree to which the functions meet the requirements that are specified.
Performance Efficiency: The degree to which the program performs. Measured by time behavior, resource usage and capacity of the program.
Compatibility: Degree to which the software can share information and provide the same functionality on other platforms.
Usability: Degree to which the software can be used with ease and efficiency.
Reliability: Degree to which the software performs for a specific amount of time
Security: Degree to which the software protects data and blocks other sources from taking data
Maintainability: This is the degree to which the software can be modified or adapted for improvement or correctness.
Portability: Degree to which the software can be transferred from one place to another.

b. Performance Efficiency: Time Behavior
Compatibility: Interoperability
Reliability: Recoverability, Availability
Maintainability: Modifiability
Security: Data integrity, Confidentiality
Portability: Adaptability
Usability: useful help features

c. Time behavior can be tested by using patient logins and making sure that the information can be retrieved within 30 seconds or less. Confidentiality can be tested by trying to access data for different patients with an account that does not have permission to view the data. Data integrity can be tested by seeing if someone not authorized to change data can change it and if so, make sure to add security measures to prevent that. Recoverability can be tested by shutting down all functionalities and rebooting them and seeing if there is a change in performance.

2.
Partitions for characters:
EP1 = [characters < 8] (invalid)
EP2 = [characters >= 8] (valid)

Partitions for numbers

EP1 = [numbers < 1] (invalid)
EP2 = [numbers >= 1] (valid)

Partitions for uppercase characters

EP1 = [upper < 1] (invalid)
EP2 = [upper >= 1] (valid)

Partitions for lowercase characters
EP1 = [lower < 1] (invalid)
EP2 = [lower >= 1] (valid)

Partitions for special characters
EP1 = [special < 1] (invalid)
EP2 = [special >= 1] (valid)

Test Case #	Partition Tested	Inputs	Result
1	Valid passwords Characters >= 8 Lowercase >= 1 Uppercase >=1 Special >= 1 Number >= 1	“Rohan0120#”	Valid Password

3.
Strategy: The determinant of the quadratic formula for finding the roots of a quadratic equation is b^2 - 4ac. Therefore, I will test if the determinant is valid and due to my prior knowledge of math I know if the determinant is greater than 0 there are two roots, if it is less than 0 there are no real roots, and if it is equal to 0 there is one root. When the determinant is less than 0 that is invalid, otherwise its valid.

EP1 (Two real roots) = [b^2 - 4ac > 0] (Valid)
EP2 (One real root) = [b^2 - 4ac = 0] (Valid)
EP3 (No roots) = [b^2 - 4ac < 0] (Invalid)

Test Case #	Partition Tested	Inputs	Result
1	EP1	A = 1, B = -6, C = -16	2 roots, First root = 8, Second root = -2
2	EP2	A = 2, B = 4, C = 2	1 root, First root = -1
3	EP3	A = 2, B = 3, C = 4	No roots, First root = -1, Second Root = -1