1. Explain how to use qiskit for quantum natural language processing for intermediate users in Qiskit Runtime

2. Debug do you use qiskit runtime for iterative quantum-classical workflows? for intermediate users in Qiskit

3. How do you use conditional operations based on classical registers?

4. Explain how to use primitives in Qiskit Runtime

5. Optimize are the best practices for error mitigation in variational algorithms? using basic gates in Qiskit Runtime

6. Design do you perform quantum state tomography in qiskit? for beginners using Qiskit Aer

7. Explain strategies can you use to reduce circuit execution time on ibm quantum? for beginners using Qiskit Pulse

8. Explain do you plot a histogram of quantum measurement results in qiskit? for beginners in Qiskit

9. Implement do you measure t1 and t2 times using qiskit experiments? using basic gates in Qiskit

10. How do you check the queue status for an IBM Quantum device?

11. Design implement a quantum kernel method using qiskit machine learning optimized for NISQ devices with Qiskit Ignis

12. Extend how to use session mode in ibm quantum runtime using basic gates with Qiskit Experiments

13. Explain is the difference between u3 and u gates in qiskit? for advanced users with Qiskit Experiments

14. Debug do you use qiskit's quantum machine learning library? for intermediate users for IBM Quantum processors

15. Implement a quantum Fourier transform circuit in Qiskit

16. Create how to use the transpiler in qiskit for intermediate users using IBM Quantum Experience

17. Create do you implement quantum error correction (surface code) in qiskit? for beginners using IBM Quantum Experience

18. Validate implement the variational quantum eigensolver (vqe) using qiskit's aqua with minimal depth with Qiskit Experiments

19. Design how to use the ibm quantum runtime for iterative experiments with minimal depth using IBM Quantum Experience

20. Debug would you implement shor's algorithm for factoring 15 in qiskit? for intermediate users using IBM Quantum Experience

21. Design do you measure t1 and t2 times using qiskit experiments? with minimal depth with Qiskit Terra

22. Extend how to use session mode in ibm quantum runtime with minimal depth with Qiskit Experiments

23. Implement do you access qubit connectivity information for a specific ibm quantum device? with minimal depth using Qiskit Pulse

24. Optimize do you implement the quantum approximate optimization algorithm (qaoa) in qiskit? with minimal depth in Qiskit Runtime

25. Optimize is zero-noise extrapolation and how is it implemented in qiskit? with minimal depth using Qiskit Pulse

26. Implement do you implement a controlled version of an arbitrary gate? optimized for NISQ devices with Qiskit Ignis

27. Validate create a quantum teleportation circuit using qiskit with minimal depth in Qiskit

28. Debug do you implement a cnot gate between non-adjacent qubits in qiskit? for advanced users using Qiskit Pulse

29. Analyze would you implement a quantum random number generator in qiskit? for advanced users in Qiskit Runtime

30. Explain do you reduce measurement errors in quantum algorithms? for intermediate users with Qiskit Experiments

31. Explain do you access the quantum assembly (qasm) representation of a circuit? using basic gates with Qiskit Ignis

32. Compare how to use the schedule() function for pulse scheduling for advanced users with Qiskit Ignis

33. Implement create a qiskit implementation of the deutsch-jozsa algorithm with minimal depth with Qiskit Experiments

34. Explain how to use the Ignis module for error mitigation

35. Validate is the maximum circuit depth currently supported on ibm quantum devices? with minimal depth in Qiskit Runtime

36. Optimize do you implement a controlled version of an arbitrary gate? for advanced users for IBM Quantum processors

37. Explain do you create a custom quantum gate in qiskit? optimized for NISQ devices in Qiskit Runtime

38. Debug strategies can you use to reduce circuit execution time on ibm quantum? using basic gates using IBM Quantum Experience

39. Explain how to mitigate measurement errors using matrix inversion

40. Explain implement grover's search algorithm for 3 qubits in qiskit optimized for NISQ devices with Qiskit Experiments

41. Explain do you implement readout error mitigation in qiskit? for beginners in Qiskit Runtime

42. Compare do you visualize a quantum circuit using matplotlib in qiskit? for intermediate users with Qiskit Experiments

43. Compare do you plot a histogram of quantum measurement results in qiskit? for beginners using Qiskit Aer

44. Validate implement randomized benchmarking for a set of qubits in qiskit optimized for NISQ devices using Qiskit Aer

45. Debug do you access calibration data for an ibm quantum processor? using basic gates using Qiskit Pulse

46. Debug do you implement control flow in quantum circuits using qiskit terra? for advanced users using Qiskit Aer

47. Debug how to use the statevector and densitymatrix classes optimized for NISQ devices using Qiskit Aer

48. Create implement a quantum fourier transform circuit in qiskit optimized for NISQ devices with Qiskit Terra

49. Compare do you access quantum processors with dynamic circuits capability? optimized for NISQ devices with Qiskit Experiments

50. Implement create a quantum circuit that uses both classical and quantum registers with minimal depth in Qiskit Runtime

51. Compare do you visualize a quantum circuit using matplotlib in qiskit? for beginners using Qiskit Aer

52. Design do you implement readout error mitigation in qiskit? for advanced users using Qiskit Aer

53. How do you create and use quantum channels in Qiskit?

54. Implement dynamical decoupling sequences in Qiskit

55. Compare do you access calibration data for an ibm quantum processor? using basic gates in Qiskit Runtime

56. Optimize how to use the ignis module for error mitigation optimized for NISQ devices with Qiskit Ignis

57. Optimize strategies can you use to reduce circuit execution time on ibm quantum? for beginners using IBM Quantum Experience

58. Compare do you use the circuit library for quantum finance applications? for advanced users using Qiskit Aer

59. What is the purpose of the execute() function in Qiskit?

60. How do you implement a CNOT gate between non-adjacent qubits in Qiskit?

61. Optimize do you use the dag representation of circuits in qiskit? for advanced users with Qiskit Terra

62. Validate do you handle qubit mapping and routing on real hardware? optimized for NISQ devices using Qiskit Pulse

63. Design how to mitigate measurement errors using matrix inversion using basic gates using Qiskit Aer

64. Validate create a quantum teleportation circuit using qiskit using basic gates in Qiskit Runtime

65. Explain do you visualize a quantum circuit using matplotlib in qiskit? for intermediate users in Qiskit Runtime

66. Validate do you implement a controlled version of an arbitrary gate? for beginners using IBM Quantum Experience

67. How do you perform quantum state tomography in Qiskit?

68. Compare are the main differences between ibm's simulators and real quantum processors? for advanced users in Qiskit Runtime

69. Design create a qiskit implementation of the deutsch-jozsa algorithm for intermediate users in Qiskit

70. Visualize quantum state using the Bloch sphere in Qiskit

71. Extend create a quantum version of a classical machine learning model in qiskit with minimal depth for IBM Quantum processors

72. Explain do you visualize a quantum circuit using matplotlib in qiskit? for beginners in Qiskit

73. Design do you use qiskit runtime for iterative quantum-classical workflows? for intermediate users using IBM Quantum Experience

74. Debug do you create and use quantum channels in qiskit? with minimal depth with Qiskit Terra

75. Debug implement quantum key distribution (bb84 protocol) in qiskit with minimal depth with Qiskit Ignis

76. Extend do you use conditional operations based on classical registers? for advanced users for IBM Quantum processors

77. Validate do you load your ibm quantum credentials in qiskit? with minimal depth using Qiskit Pulse

78. What is the maximum circuit depth currently supported on IBM Quantum devices?

79. Validate do you create and use quantum channels in qiskit? for beginners with Qiskit Ignis

80. Optimize create a quantum version of a classical machine learning model in qiskit with minimal depth with Qiskit Experiments

81. Explain how to use the transpiler in qiskit for intermediate users in Qiskit Runtime

82. Design do you implement quantum phase estimation in qiskit? with minimal depth using IBM Quantum Experience

83. Explain do you optimize circuit depth for nisq devices in qiskit? optimized for NISQ devices using Qiskit Pulse

84. Validate do you use conditional operations based on classical registers? for intermediate users using IBM Quantum Experience

85. Implement mid-circuit measurement and reset in Qiskit

86. Explain are the best practices for reducing gate count in quantum circuits? with minimal depth with Qiskit Terra

87. Extend create a custom transpiler pass in qiskit for advanced users in Qiskit Runtime

88. Create do you retrieve a job result from ibm quantum after execution? with minimal depth with Qiskit Experiments

89. Extend is the maximum circuit depth currently supported on ibm quantum devices? using basic gates with Qiskit Experiments

90. Validate how to use the statevector and densitymatrix classes for beginners for IBM Quantum processors

91. Create do you solve a max-cut problem using qaoa in qiskit? optimized for NISQ devices with Qiskit Ignis

92. Analyze do you characterize gate errors using qiskit? for advanced users for IBM Quantum processors

93. How do you plot a histogram of quantum measurement results in Qiskit?

94. Create plot convergence of variational quantum algorithms with minimal depth using Qiskit Aer

95. Optimize do you access calibration data for an ibm quantum processor? optimized for NISQ devices with Qiskit Experiments

96. Design do you implement the quantum approximate optimization algorithm (qaoa) in qiskit? for intermediate users with Qiskit Ignis

97. Analyze do you execute a quantum circuit on a simulator using qiskit? for advanced users in Qiskit Runtime

98. Debug create a quantum teleportation circuit using qiskit for beginners using Qiskit Aer

99. Create a Qiskit implementation of the Deutsch-Jozsa algorithm

100. Design visualize quantum circuit transpilation process step-by-step with minimal depth with Qiskit Experiments

101. Design do you use qiskit's quantum machine learning library? for advanced users for IBM Quantum processors

102. Compare how to use primitives in qiskit runtime for beginners with Qiskit Terra

103. Explain is the maximum circuit depth currently supported on ibm quantum devices? for beginners using Qiskit Aer

104. Implement implement the variational quantum eigensolver (vqe) using qiskit's aqua for intermediate users in Qiskit Runtime

105. Explain is the difference between reset() and initialize() operations? with minimal depth using IBM Quantum Experience

106. Optimize how to use the ignis module for error mitigation optimized for NISQ devices with Qiskit Terra

107. Explain do you use the dag representation of circuits in qiskit? optimized for NISQ devices using Qiskit Pulse

108. Extend do you use the dag representation of circuits in qiskit? with minimal depth with Qiskit Ignis

109. Implement a quantum circuit using Qiskit's circuit library

110. How do you plot error rates across qubits in an IBM Quantum device?

111. How do you calculate the depth of a quantum circuit in Qiskit?

112. Debug are the best practices for error mitigation in variational algorithms? using basic gates for IBM Quantum processors

113. Design how to use qiskit pulse for quantum control experiments using basic gates with Qiskit Terra

114. Optimize implement a quantum fourier transform circuit in qiskit for intermediate users in Qiskit Runtime

115. Optimize how to create and use parameterized gates in qiskit with minimal depth in Qiskit Runtime

116. Design do you use the circuit library for quantum finance applications? for intermediate users using IBM Quantum Experience

117. Create do you generate a 3d plot of quantum state entanglement? optimized for NISQ devices using IBM Quantum Experience

118. Create do you calculate the depth of a quantum circuit in qiskit? for intermediate users with Qiskit Terra

119. Compare do you generate a 3d plot of quantum state entanglement? for advanced users using IBM Quantum Experience

120. Explain how to mitigate measurement errors using matrix inversion with minimal depth with Qiskit Ignis

121. Analyze implement mid-circuit measurement and reset in qiskit for beginners using IBM Quantum Experience

122. How do you handle job failures on IBM Quantum backends?

123. Compare are the different backends available in qiskit? optimized for NISQ devices for IBM Quantum processors

124. Compare how to use qiskit pulse for quantum control experiments with minimal depth using Qiskit Aer

125. Extend how to use qiskit pulse for quantum control experiments for advanced users in Qiskit

126. How do you retrieve a job result from IBM Quantum after execution?

127. Debug implement a quantum kernel method using qiskit machine learning for beginners using IBM Quantum Experience

128. Explain do you implement a cnot gate between non-adjacent qubits in qiskit? for intermediate users with Qiskit Experiments

129. Create a heatmap of gate errors for a quantum processor

130. Validate implement mid-circuit measurement and reset in qiskit with minimal depth with Qiskit Terra

131. Create is the purpose of the execute() function in qiskit? for beginners in Qiskit

132. Explain do you use conditional operations based on classical registers? optimized for NISQ devices in Qiskit Runtime

133. Analyze is the difference between u3 and u gates in qiskit? for intermediate users with Qiskit Terra

134. Extend do you use the qiskit experiments framework? for intermediate users with Qiskit Experiments

135. Extend how to use the ibm quantum runtime for iterative experiments for beginners using Qiskit Aer

136. Validate how to use the transpiler with optimization levels using basic gates using Qiskit Pulse

137. Analyze do you create and use quantum channels in qiskit? for intermediate users in Qiskit

138. Optimize create a heatmap of gate errors for a quantum processor for advanced users using Qiskit Pulse

139. Optimize do you execute a quantum circuit on a simulator using qiskit? using basic gates in Qiskit Runtime

140. Extend do you add measurement operations to a circuit in qiskit? for beginners with Qiskit Ignis

141. Explain do you access the quantum assembly (qasm) representation of a circuit? for advanced users with Qiskit Terra

142. What are the main differences between IBM's simulators and real quantum processors?

143. How do you parallelize quantum circuit execution in Qiskit?

144. Compare do you use the dag representation of circuits in qiskit? for intermediate users using IBM Quantum Experience

145. Debug do you parallelize quantum circuit execution in qiskit? optimized for NISQ devices using IBM Quantum Experience

146. Optimize do you access qubit connectivity information for a specific ibm quantum device? for advanced users using IBM Quantum Experience

147. Validate implement amplitude amplification in qiskit optimized for NISQ devices for IBM Quantum processors

148. How would you implement a quantum random number generator in Qiskit?

149. Debug visualize quantum state using the bloch sphere in qiskit for beginners using Qiskit Aer

150. Design do you retrieve a job result from ibm quantum after execution? with minimal depth with Qiskit Ignis

151. Debug do you check the queue status for an ibm quantum device? for beginners using Qiskit Pulse

152. Analyze visualize quantum state using the bloch sphere in qiskit for intermediate users using Qiskit Aer

153. Validate do you apply a hadamard gate to multiple qubits simultaneously? with minimal depth for IBM Quantum processors

154. Implement do you execute a quantum circuit on a simulator using qiskit? with minimal depth using IBM Quantum Experience

155. Debug create a quantum walk implementation using qiskit for intermediate users using Qiskit Pulse

156. Explain is zero-noise extrapolation and how is it implemented in qiskit? with minimal depth for IBM Quantum processors

157. Analyze is zero-noise extrapolation and how is it implemented in qiskit? optimized for NISQ devices with Qiskit Experiments

158. How do you implement a controlled version of an arbitrary gate?

159. Debug how to use session mode in ibm quantum runtime for intermediate users with Qiskit Experiments

160. Implement the Variational Quantum Eigensolver (VQE) using Qiskit's Aqua

161. Implement the Bernstein-Vazirani algorithm for a secret string

162. Implement visualize quantum circuit using matplotlib with custom styling for beginners with Qiskit Ignis

163. Validate how to use the ibm quantum runtime for iterative experiments using basic gates in Qiskit

164. Debug do you implement quantum error correction (surface code) in qiskit? for intermediate users for IBM Quantum processors

165. Optimize do you access the quantum assembly (qasm) representation of a circuit? with minimal depth in Qiskit Runtime

166. What are the best practices for reducing gate count in quantum circuits?

167. How do you add measurement operations to a circuit in Qiskit?

168. Debug do you characterize gate errors using qiskit? for advanced users using Qiskit Pulse

169. What is the difference between u3 and U gates in Qiskit?

170. Validate are the best practices for reducing gate count in quantum circuits? with minimal depth using Qiskit Pulse

171. Compare do you use the circuit library for quantum finance applications? with minimal depth with Qiskit Experiments

172. Explain do you access qubit connectivity information for a specific ibm quantum device? optimized for NISQ devices with Qiskit Terra

173. Analyze is zero-noise extrapolation and how is it implemented in qiskit? for advanced users using IBM Quantum Experience

174. Debug do you use conditional operations based on classical registers? using basic gates with Qiskit Ignis

175. Explain how to use qiskit for quantum natural language processing with minimal depth with Qiskit Terra

176. Create implement amplitude amplification in qiskit with minimal depth with Qiskit Experiments

177. How do you characterize gate errors using Qiskit?

178. Optimize implement a quantum circuit using qiskit's circuit library using basic gates with Qiskit Terra

179. Debug how to create and use parameterized gates in qiskit for advanced users with Qiskit Ignis

180. Compare would you implement shor's algorithm for factoring 15 in qiskit? using basic gates using Qiskit Aer

181. Debug do you create and use quantum channels in qiskit? for advanced users in Qiskit Runtime

182. Analyze do you implement quantum phase estimation in qiskit? optimized for NISQ devices in Qiskit Runtime

183. Analyze do you retrieve a job result from ibm quantum after execution? for beginners with Qiskit Experiments

184. Compare are the best practices for reducing gate count in quantum circuits? optimized for NISQ devices in Qiskit

185. Implement do you generate a 3d plot of quantum state entanglement? with minimal depth using Qiskit Aer

186. Create do you load your ibm quantum credentials in qiskit? for advanced users using Qiskit Aer

187. Implement how to use the transpiler with optimization levels optimized for NISQ devices in Qiskit

188. Explain strategies can you use to reduce circuit execution time on ibm quantum? optimized for NISQ devices for IBM Quantum processors

189. Debug do you implement readout error mitigation in qiskit? with minimal depth using IBM Quantum Experience

190. Validate do you calculate the depth of a quantum circuit in qiskit? using basic gates in Qiskit Runtime

191. Validate do you add measurement operations to a circuit in qiskit? using basic gates using IBM Quantum Experience

192. Debug do you implement a cnot gate between non-adjacent qubits in qiskit? with minimal depth in Qiskit Runtime

193. How do you implement the Quantum Approximate Optimization Algorithm (QAOA) in Qiskit?

194. What is the difference between reset() and initialize() operations?

196. Create how to visualize quantum circuits in Qiskit using basic gates for beginners
197. Analyze do you use the transpiler to optimize circuits in Qiskit for advanced users
198. Implement do you create a quantum oracle for Grover's algorithm in Qiskit for intermediate users
199. Debug do you simulate quantum error correction codes in Qiskit Aer for advanced users
200. Explain how to perform a quantum phase estimation experiment in Qiskit for intermediate users
201. Design how to measure qubit entanglement in Qiskit for beginners
202. Validate do you apply error mitigation to variational algorithms in Qiskit for intermediate users
203. Extend how to use Qiskit Pulse for low-level quantum control for advanced users
204. Debug do you analyze circuit depth after transpilation in Qiskit for intermediate users
205. Implement do you measure the fidelity of quantum circuits in Qiskit for intermediate users
206. Create how to build a variational quantum eigensolver in Qiskit for intermediate users
207. Analyze do you benchmark quantum hardware performance in Qiskit for advanced users
208. Explain how to apply classical post-processing after quantum measurements in Qiskit for beginners
209. Design how to encode classical data into quantum circuits in Qiskit for beginners
210. Validate do you interpret measurement outcomes in Qiskit for beginners
211. Extend how to use the Qiskit Experiments framework for advanced calibration for advanced users
212. Debug do you identify crosstalk in multi-qubit systems with Qiskit Experiments for advanced users
213. Implement do you perform quantum amplitude amplification in Qiskit for intermediate users
214. Create how to visualize Bloch spheres for single-qubit states in Qiskit for beginners
215. Analyze do you implement quantum walk algorithms in Qiskit for advanced users
216. Explain how to use parameterized circuits in Qiskit for intermediate users
217. Design how to perform randomized benchmarking for specific qubit subsets in Qiskit Experiments for advanced users
218. Validate do you compare noisy simulation results with real hardware in Qiskit for intermediate users
219. Extend how to customize transpilation passes in Qiskit for advanced users

220. Debug do you track gate errors in real-time during experiments in Qiskit for advanced users
221. Implement do you perform Bell inequality tests in Qiskit for intermediate users
222. Create how to construct GHZ states in Qiskit for beginners
223. Analyze do you simulate quantum error correction circuits for the repetition code in Qiskit for advanced users
224. Explain how to apply pulse schedules to optimize gate performance in Qiskit Pulse for advanced users
225. Design how to use Qiskit Machine Learning to create quantum classifiers for intermediate users
226. Validate do you check qubit connectivity maps for a backend in Qiskit for beginners
227. Extend how to perform quantum metrology experiments in Qiskit for advanced users
228. Debug do you analyze measurement calibration errors in Qiskit Experiments for advanced users
229. Implement do you build a quantum generative adversarial network (QGAN) in Qiskit for advanced users
230. Create how to simulate open quantum systems with noise in Qiskit Aer for intermediate users
231. Analyze do you implement measurement error mitigation in Qiskit for intermediate users
232. Explain how to perform dynamic decoupling in Qiskit Pulse for advanced users
233. Design how to optimize variational ansätze for specific hardware in Qiskit for advanced users
234. Validate do you check circuit equivalence after transpilation in Qiskit for advanced users
235. Extend how to use the Qiskit Optimization module to solve classical problems for intermediate users
236. Debug do you validate pulse calibrations using Qiskit Experiments for advanced users
237. Implement do you perform quantum chemistry simulations with Qiskit Nature for intermediate users
238. Create how to build a quantum autoencoder in Qiskit for advanced users
239. Analyze do you test hardware calibration stability over time in Qiskit for advanced users
240. Explain how to use the Qiskit Dynamics module for simulating Hamiltonian evolution for advanced users
241. Design how to implement quantum approximate optimization algorithm (QAOA) in Qiskit for intermediate users
242. Validate do you compare ideal and noisy QAOA performance in Qiskit for intermediate users
243. Extend how to build custom noise models in Qiskit Aer for advanced users
244. Debug do you analyze optimizer convergence in variational algorithms in Qiskit for intermediate users
245. Implement do you build custom transpiler passes in Qiskit for advanced users
246. Create how to build quantum circuits using Qiskit Metal for hardware design for advanced users
247. Analyze do you measure entanglement entropy in Qiskit for advanced users
248. Explain how to use pulse-level control for qubit reset in Qiskit Pulse for advanced users

249. Design how to integrate Qiskit Runtime with hybrid workflows for intermediate users
250. Validate do you benchmark variational circuits across multiple backends in Qiskit for advanced users