

Assignment 5 answers

1. a) 2
2. a) Bluetooth
3. c) Flashing a microSD card
4. d) To interface with external hardware and devices
5. c) To interface with cameras
6. b) To interface with displays
7. c) Cellular
8. b) 5V
9. b) To store the operating system and user data
10. b) To connect to external speakers or headphones
11. a) A closed loop for the flow of electric current
12. a) Resistor
13. b) A circuit where the current can flow continuously
14. a) The circuit becomes open and current stops flowing
15. b) Creating prototypes of electronic circuits
16. c) By pressing them into holes in the board
17. c) To provide power and ground connections to components
18. c) Jumper wire
19. c) It allows for easy modification and reuse of components
20. a) Rows of holes are connected horizontally, and columns of holes are connected vertically
21. b) 26
22. b) It receives electrical signals from external devices.
23. c) External electronic components such as sensors, LEDs, and buttons
24. d) By toggling the voltage on GPIO pins to turn LEDs on and off
25. c) By using GPIO pins as clock SCL and data SDA lines
26. d) Sound waves
27. d) By emitting sound waves and measuring the time taken for the waves to bounce back
28. c) Detecting motion and presence
29. b) TX
30. b) 2

- 31. c) To convert physical quantities into electrical signals
- 32. d) Ultrasonic sensor
- 33. c) Transducer
- 34. d) Convert physical quantities into electrical signals
- 35. c) Transducer
- 36. b) Sensor
- 37. b) Comparing a measurement device to a known standard
- 38. c) It can cause drift and affect sensor accuracy.
- 39. d) Sensors may degrade or corrode over time.
- 40. c) Radio frequency interference
- 41. a) Adds all changes in the working directory to the staging area
- 42. a) `git commit -m "Commit message"`
- 43. a) `git status`
- 44. d) `git branch`
- 45. b) `git checkout`
- 46. d) `git log`
- 47. b) To list and manage remote repositories
- 48. d) `git checkout -b`
- 49. b) `git merge`
- 50. b) Authenticating and accessing a repository
- 51. d) PAT-based authentication
- 52. c) PATs can have limited scopes and expiration dates
- 53. d) You generate it from your GitHub account settings
- 54. a) Reading repositories
- 55. b) In the URL of the repository
- 56. b) To set a new remote URL for the "origin" remote
- 57. c) Personal Access Token
- 58. b) To replace the username and password for secure authentication
- 59. c) It changes the remote URL for the "origin" remote
- 60. d) It avoids exposing the username and password