1.

- Green Coding Practices: Focus on developing efficient algorithms and minimizing computational resource usage.
- Energy Efficiency: Optimize code to reduce the power consumed by applications running on servers or devices.
- Sustainable Tools: Use frameworks or platforms that emphasize low-energy consumption.
- Long-Lasting Design: Build software solutions with modularity and scalability, reducing the need for constant updates or rewrites.
- Cloud Efficiency: Choose cloud providers with strong commitments to renewable energy sources on

2.

- Energy Consumption: Assess the power required for development, testing, and deployment, especially on high-energy platforms like cloud infrastructure.
- E-Waste Generation: Determine how frequently hardware upgrades or replacements will be required.
- Carbon Footprint: Measure the carbon emissions produced by data centers, travel, and physical hardware.
- Resource Utilization: Evaluate the project's demand for finite natural resources like metals in hardware.
- Software Efficiency: Assess how efficiently the software uses resources, avoiding unnecessary load on hardware and reducing power consumption.

3.

- Labor Exploitation: Rare earth mineral mining for computer components often involves unsafe labor practices and child labor.
- Digital Divide: Unequal access to technology widens gaps in education, healthcare, and employment opportunities.
- Disposal Practices: Improper disposal of electronics disproportionately affects vulnerable communities, often exposing them to toxic waste.
- Job Impact: Automation in industries can lead to job displacement while creating demand for tech-related roles.

4.

- E-Waste: Discarded devices often contain toxic materials like mercury and lead, contaminating soil and water.
- Energy Usage: Regular computer use and data centers contribute significantly to global electricity demand, often sourced from fossil fuels.
- Resource Depletion: Manufacturing devices depletes finite natural resources like cobalt, lithium, and rare earth metals.
- Greenhouse Gas Emissions: Production, transport, and operation of devices release CO2 and other greenhouse gases.

5.

a. Remote Work

- Reduced Commuting Emissions: Remote work decreases vehicle use, cutting emissions from commuting.
- Energy-Efficient Home Offices: Encouraging employees to use energy-saving equipment and renewable energy for remote setups.

b. E-commerce

- Sustainable Packaging: Using recyclable or biodegradable materials for shipping.
- Green Logistics: Leveraging electric vehicles and optimizing delivery routes to reduce emissions.
- Eco-Friendly Warehousing: Solar-powered warehouses and energy-efficient storage facilities are being adopted.

c. Cryptocurrencies

- Proof-of-Stake Protocols: Transitioning from energy-intensive proof-of-work models to proof-of-stake systems.
- Carbon-Neutral Mining: Some companies offset mining emissions by investing in renewable energy or carbon credits.

d. AI Model Training

- Energy Optimization: Training models using efficient algorithms and prioritizing renewable energy-powered data centers.
- Shared Resources: Using federated learning or distributed cloud models to minimize duplication of training efforts.

e. Data Centers

- Renewable Energy: Many data centers are now powered by solar, wind, or hydroelectric energy.
- Advanced Cooling Systems: Liquid cooling and ambient air cooling reduce energy demands for temperature regulation.
- Modular Design: Flexible architectures optimize space and resource usage, minimizing waste.