

1. Explain Green Computing with its advantages.

Answer: -

Green Computing: -

- 1) Green computing is the environmentally responsible and eco-friendly use of computers and their resources.
- 2) Green computing technique reduces the energy consumption which results into low carbon dioxide emission.
- 3) By using green computing techniques, we can also save money that was spent in extra usage of energy and resources.
- 4) Green computing also applies changing government policy to encourage recycling.
 - **Green use:** Minimizing the electricity consumption of computers and their peripheral devices and using them in an eco-friendly manner
 - **Green disposal:** Repurposing existing equipment or appropriately disposing of, or recycling, unwanted electronic equipment
 - **Green design:** Designing energy-efficient computers, servers, printers, projectors and other digital devices
 - **Green manufacturing:** Minimizing waste during the manufacturing of computers and other subsystems to reduce the environmental impact of these activities

ADVANTAGES OF GREEN COMPUTING: -

1. Energy Savings

Green computing makes sure that very less amount of energy is consumed by the IT processes. Thus, this can save plenty amount of energy overtime.

2. Cost Savings

Green computing is highly cost effective that helps people save money. Since lots of energies are saved when using a green computing solution, it also substantially leads to financial gains. Even though green computing is with high upfront costs, still it is cost effective in the long run.

3. Recycling Process

Green computing encourages recycling process by reusing and recycling electronic wastes.

4. Brand Strengthen

Green computing is capable of creating public images so that they can strengthen their brand and market position all around the world.

5. Less Pollution

Through conventional computing, lots of pollution issues take place in the environment. For an example, if not properly recycled all the electronic wastes from the computer may end up circulating on land. Thus, leading to soil as well as water pollution. By using green computing, the users can minimize the impact created by pollution at least to some extent.

6. GHG Emission

During the production of IT hardware, tremendous amount of greenhouse gases are released to the atmosphere. Especially, since harmful gases such as carbon dioxide are emitted.

7. Chemical Exposure

In most of the electronic devices, harmful chemicals such as mercury is used. If a human happens to get contacted with those substances, he/she will probably suffer from health risks. Some of the known health risks are triggering of immune responses, nerve damage or even cancer. The companies which practice green computing potentially avoid the use of non-toxic substances during the production of computer hardware.

2. What is E-waste? What can be done to reduce the impact of E-waste?

Answer: -

E Waste :-

E-waste is any electrical or electronic equipment that's been discarded. This includes working and broken items that are thrown in the garbage or donated to a charity reseller like Goodwill. Often, if the item goes unsold in the store, it will be thrown away. E-waste is particularly dangerous due to toxic chemicals that naturally leach from the metals inside when buried.

10 Ways to Reduce E-Waste

- Donate or Sell Working Electronics.
- Consume Less in Order to Reduce Your E-Waste.
- Use Your Old Mobile Phone as a GPS Device.
- Recycle via a Retailer.
- Check E-Cycling Centres in Your State.
- Organize Your Electronics. ...
- Store Your Data Online.

3)What are the benefits of going paperless.

Answer: -

1)Save Time: -

With a paperless filing system, searching through thousands of files becomes as easy as “Ctrl + F.” Of course there is a learning curve, but the Small Business Administration (SBA) suggests that going paperless increases the productivity, functionality and efficiency of an office.

2)Save Money: -

A paperless office obviously buys less paper, saving an average of almost \$80 per employee, according to the EPA. But less obvious is the far more significant savings in ink, toner, postage, files storage space, trips to the post office and time spent shredding old files or searching for misfiled documents.

3)Save Space: -

Bulky file cabinets are obsolete. A whole cabinet of contents can be condensed into two gigabytes of neatly organized files on a hard drive. Old file rooms can become new offices.

4)Improves Security: -

Storing and backing up documents on the cloud (online) eliminates the need to carry sensitive papers out of the office. Rigorous safeguards built into back- up systems ensure data is not lost through natural disaster or accident, either.

5)Boosts Company Image: -

Considering that a one terabyte hard drive could possibly save 50,000 trees and that a recent Harris Interactive survey found an increasing number of Americans consider a business’s environmental track record in their purchasing decisions, going paperless may be an ideal way to improve your business image and gain more

4)What is GitHub? Give advantages of using GitHub.

Answer: -

GitHub hosts your source code projects in a variety of different programming languages and keeps track of the various changes made to every iteration. So, the “**Git**” implies the version control system; a tool which allows developers to keep track of the constant revisions to their code.

Advantages of using GitHub: -

1. It makes it easy to contribute to your open-source projects: -

To be honest, nearly every open-source project uses GitHub to manage their project. Using GitHub is free if your project is open source and includes a wiki and issue tracker that makes it easy to include more in-depth documentation and get feedback about your project. If you want to contribute, you just fork a project, make your changes and then send them a pull request using GitHub web interface.

2. Documentation: -

By using GitHub, you make it easier to get excellent documentation. Their help section and guides have articles for nearly any topic related to git that you can think of.

3. Showcase your work: -

Are you a developer and wishes to attract recruiters? GitHub is the best tool you can rely on for this. Today, when searching for new recruits for their project, most companies look into the GitHub profiles. If your profile is available, you will have a higher chance of being recruited even if you are not from a great university or college.

4. GitHub is a repository: -

This was already mentioned before, but it’s important to note, GitHub is a repository. What this means that it allows your work to get out there in front of the public. Moreover, GitHub is one of the largest coding communities around right now, so it’s wide exposure for your project.

5. Integration options: -

GitHub can integrate with common platforms such as Amazon and Google Cloud, services such as Code Climate to track your feedback, and can highlight syntax in over 200 different programming languages.

5. Write a program using PEP8 rules.

Answer: - Indeed coding and applying logic is the foundation of any programming language but there's also another factor that every coder must keep in mind while coding and that is the coding style.

Keeping this in mind, Python maintains a strict way of order and format of scripting.

Following this sometimes mandatory and is a great help on the user's end, to understand.

Making it easy for others to read code is always a good idea, and adopting a nice coding style helps tremendously for that.

For Python, **PEP 8** has emerged as the style guide that most projects adhere to; it promotes a very readable and eye-pleasing coding style.

1) Use 4-space indentation and no tabs.

Examples:-

A)# Aligned with opening delimiter.

```
grow = function_name(variable_one, variable_two,  
                      variable_three, variable_four)
```

B)# First line contains no argument. Second line onwards

more indentation included to distinguish this from

the rest.

```
def function_name(  
    variable_one, variable_two, variable_three,  
    variable_four):  
    print(variable_one)
```

The 4 space rule is not always mandatory and can be overruled for the continuation line.

2) Use docstrings: -

Both single and multi-line docstrings can be used in Python. However, the single-line comment fits in one line, triple quotes are used in both cases. These are used to define a particular program or define a particular function.

Example:-

```
def exam():  
    """This is single line docstring"""  
  
    """This is
```

a

multiline comment"""

3. Wrap lines so that they don't exceed 79 characters: -

The Python standard library is conservative and requires limiting lines to 79 characters. The lines can be wrapped using parenthesis, brackets, and braces. They should be used in preference to backslashes.

Example:-

```
with open('/path/from/where/you/want/to/read/file') as file_one, \
    open('/path/where/you/want/the/file/to/be/written', 'w') as file_two:
    file_two.write(file_one.read())
```

4. Use of trailing commas :-

This is not mandatory except while making a tuple.

Example:-

```
tup = ("Aniket",)
```

4. Use Python's default *UTF-8* or *ASCII* encodings and not any fancy encodings, if it is meant for the international environment.

5. Use spaces around operators and after commas, but not directly inside bracketing constructs:-

```
a = f(1, 2) + g(3, 4)
```

6. Don't use non-ASCII characters in identifiers if there is only the slightest chance people speaking a different language will read or maintain the code.

7. Name your classes and functions consistently: -

The convention is to use **CamelCase** for classes and **lower_case_with_underscores** for functions and methods. Always use **self** as the name for the first method argument.