

Sr. No.	DATE	TITLE	SIGN
1.	02/02/2021	INTRODUCTION and CONTRIBUTING TO WIKIPEDIA a) What is Wikipedia? b) Steps to Create Account on Wikipedia c) Creating Page on Wikipedia d) Edit your page	
2.	09/02/2021	Creating account, repository on GitHub and Cloning repository in GitHub Page	
3.	16/02/2021	BASIC UNDERSTANDING ON FREE AND OPEN-SOURCE SOFTWARE a) Describe Open-Source Software with Example. b) Describe Free Software with Example c) Difference between Free and Open-Source Software.	
4.	23/02/2021	WRITING EMAIL	
5.	25/02/2021	Using practical examples, describe green computing. List and explain the steps that you take to contribute to green computing	
6.	02/03/2021	WRITING BLOGS	
7.	09/03/2021	Implementing coding practices in Python using PEP8.	
8.	20/03/2021	PRESENTATION: _____	

Name: - Aditya sahu

Roll No: 70

Class:-FYBSCIT

Practical1: Introduction and Contribution to Wikipedia

a) Description about Wikipedia and its features.

- **Overview**

Wikipedia's articles allow the user to use links that are related to the pages for additional information.

It allows you to edit articles for free.

It allows you to put your own article on the site.

Wikipedia has 270 languages.

Wikipedia was founded by Nupedia to produce a free encyclopedia.

- . Quick Information

Wikipedia is a free encyclopedia service available over the internet.

Depending on the topic, wiki's information can be general or very detailed.

Wikipedia appeals to many different types of people. Even though most teachers frown upon it, wiki is used as a starting point for many students when doing a project or presentation.

- **Features and Benefits**

Wikipedia's most known and controversial feature is its editing tool.

You must be a registered user of the site to make changes to any articles.

The editing model is only available in the English edition.

Free editing can be very helpful to the sites users.

If a fact is incorrect it can be changed within seconds by one of Wikis register users.

This can also create issues, because anyone can edit the site can tend to have some news posted that is not fact based.

Wikipedia Features

- Wikipedia has many features for the users on the web. Wiki provides pieces of answers from different resources, to help the user see it from different perspectives. If someone doesn't understand what one editor says, there're always a few more editors with the same answer but with a different response.

- **More Features...**

- Users around the world are able to add or delete an answer to make the best response. Wiki added a new feature called vector, which is stylish tabs at the top of each page telling the user whether they're viewing a document or a discussion page.

-This feature also reminds them if they're reading or editing an entry. Wikipedia is a community effort to create the best answers possible; there are different viewpoints for the user to read.

- **Supported Applications**

Many applications are necessary in order for Wikipedia to function properly.

Javascript must be installed on your computer during your research process for the language to be visible and understandable to the reader.

- **How Wikipedia is Used**

Wikipedia can be used in various ways. Companies such as Red Ant, a Sydney, Australia

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based web design and development firm, and Sun Microsystems all benefit from using Wikipedia.

Wikipedia is used as a focal point of the web for employees and customers.

Employees use Wikipedia to attach files, update web pages and integrate information for their job.

- Where Can It Be Purchased

Wikipedia is a free online encyclopedia directed more towards the younger generation.

Anyone can easily access wikipedia by logging on to <http://www.wikipedia.org/>

Recommended **Explore professional development books with Scribd** Explore professional development books with Scribd Scribd - Free 30 day trial Wiki powerpoint Wiki powerpoint Penfield Central Schools Wikipedia Wikipedia bookbird Wikipedia Wikipedia ger1989

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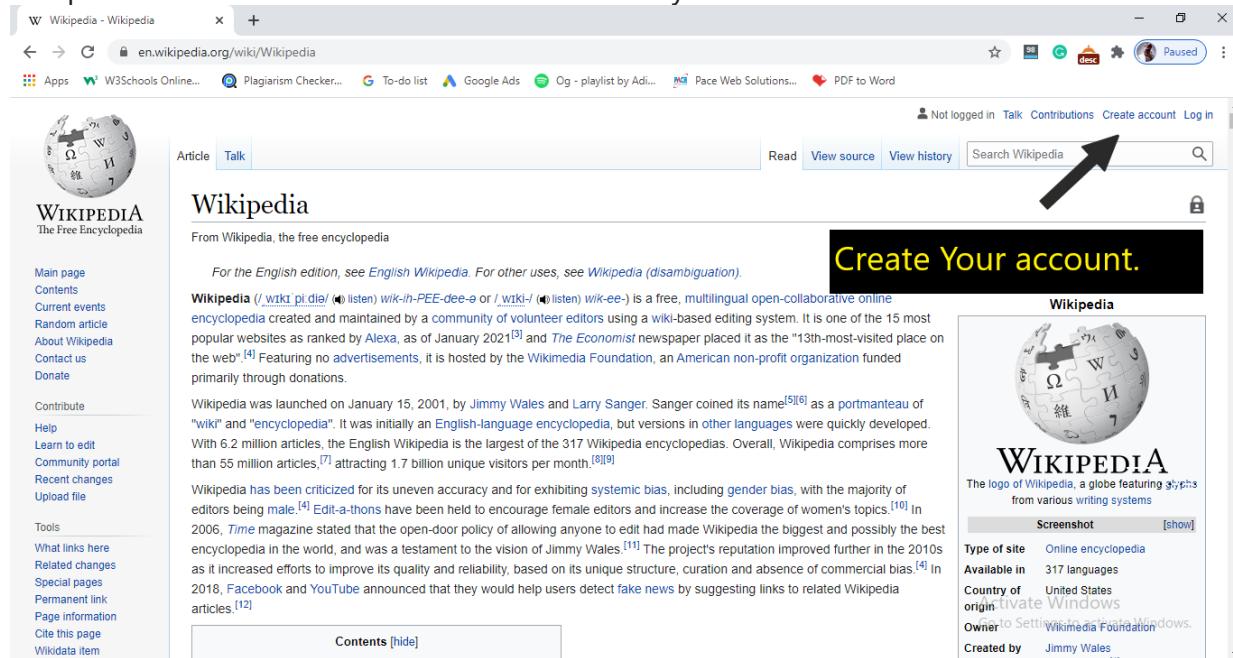
Encyclopedias soher hassan Slowing Growth of Wikipedia and Models of its Dynamic

(Presented at Wikimedia Foundataion and WikiSym 2009) Slowing Growth of Wikipedia and Models of its Dynamic (Presented at Wikimedia... Ed Chi Editing Wikipedia Editing

Wikipedia Kathy Gill

b) Creating Account on Wikipedia

Step1: Click on Create account button to create your account.



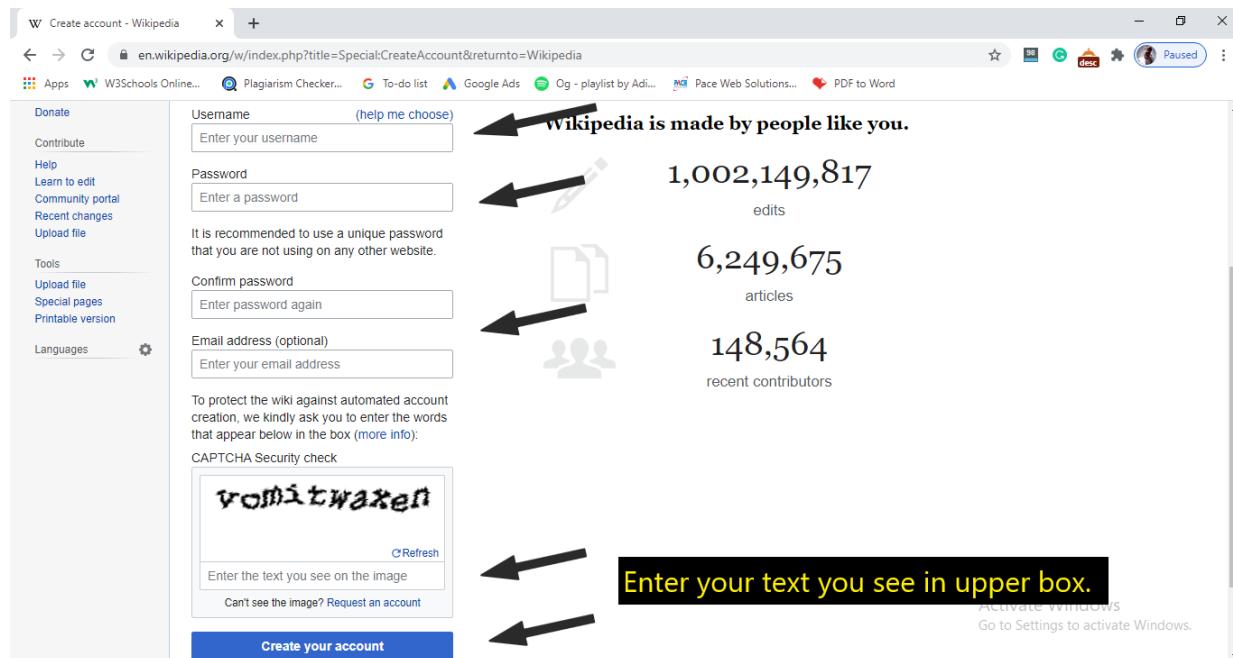
The screenshot shows the main Wikipedia homepage. At the top right, there is a navigation bar with links for 'Not logged in', 'Talk', 'Contributions', 'Create account', and 'Log in'. A large red arrow points to the 'Create account' link. Below the navigation bar, the page title 'Wikipedia' is displayed, along with the subtitle 'From Wikipedia, the free encyclopedia'. To the left of the main content area, there is a sidebar with various links such as 'Main page', 'Contents', 'Current events', etc. The main content area features a large banner with the text 'Create Your account.' and a link to 'Create account'. Below the banner, there is a detailed description of what Wikipedia is and how it was founded. On the right side of the page, there is a sidebar with information about the Wikipedia logo, including a 'Screenshot' and a 'Type of site' section which states 'Online encyclopedia'.

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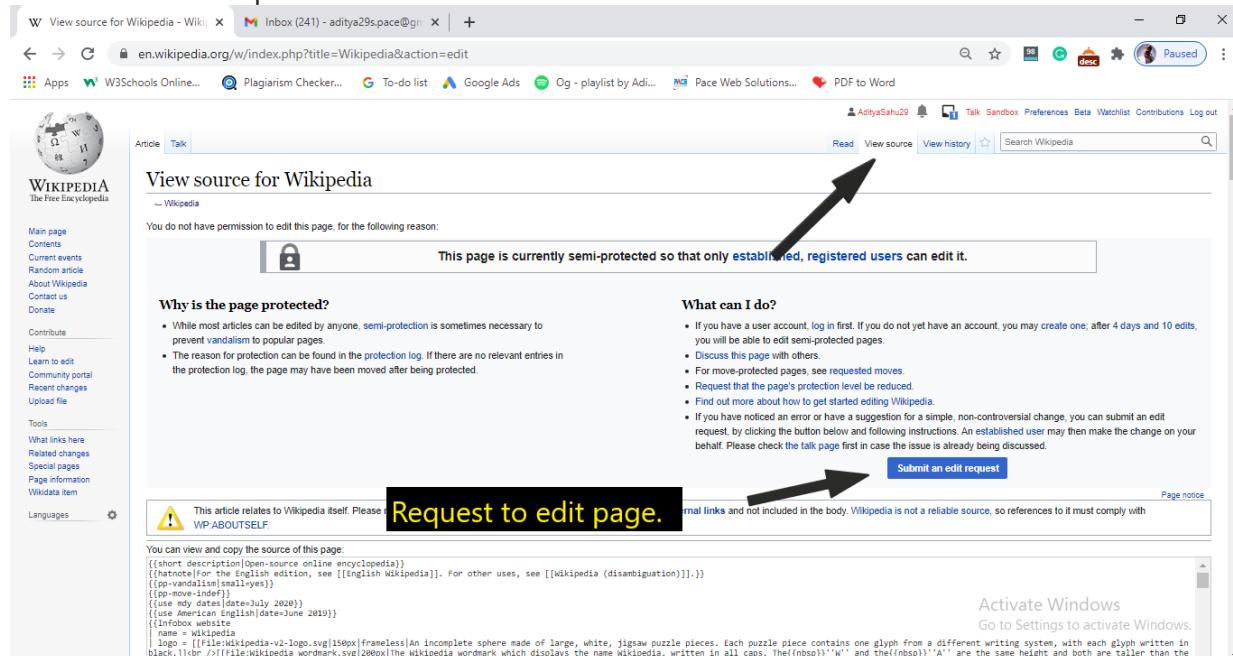
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Step2: Fill all the information carefully and after that click on the Create your account button to create account.



c) Creating your page on Wikipedia

Step1: click on the view source button then you will reach on this page then click on submit an edit request button.



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Step2: Click on New section to create your page.

The screenshot shows a browser window with the URL en.wikipedia.org/w/index.php?title=Talk%3AWikipedia&preload=Template%3ASubmit+an+edit+request%2Fpreload&action=edit§ion=new. The page title is "Editing Talk:Wikipedia (new section)". At the top right, there is a navigation bar with links for "Read", "Edit source", "New section", "View history", and "Search Wikipedia". A large black arrow points to the "New section" button. On the left side, there is a sidebar with various Wikipedia navigation links like "Main page", "Contents", "Recent changes", etc. The main content area contains instructions for editing requests and a note about this being a talk page.

d) Editing your page on Wikipedia

Step1: Click on Create source button and after that click on User page then you will reach on your page. Here you can Edit your page.

The screenshot shows a browser window with the URL en.wikipedia.org/w/index.php?title=User:AdityaSahu29&action=edit. The page title is "Creating User:AdityaSahu29". At the top right, there is a navigation bar with links for "Create source", "Search Wikipedia", and "Log out". A large black arrow points to the "Create source" button. On the left side, there is a sidebar with various Wikipedia navigation links like "Main page", "Contents", "Recent changes", etc. The main content area contains instructions for creating a user page and a note about content violations.

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Step2: Here you can fill necessary information and at the end click on Publish changes button to Publish your page information.

Creating User:AdityaSahu29

If you want to draft an article, please create a [userspace draft](#) instead of creating it here.

Edit your page here.

Publish Your changes.

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Step3: Click on the read button and you will reach on your edited page.

User:AdityaSahu29

Definition:-

Meaning:-

Introduction:-

Types of SEO:-

On-Page SEO.

- Off-Page SEO.
- Negative SEO.
- White Hat SEO.
- Black Hat SEO.
- Grey Hat SEO.

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PRACTICAL 2: Creating account, repository on Github s and cloning repository in Github

a) Creating account: -

Step1: - Search Github on Google and click on the official link of Github.

A screenshot of a Google search results page. The search query is "github". The top result is a link to GitHub's homepage: "GitHub: Where the world builds software · GitHub". A large black arrow points to this link. To the right of the search results, there is a sidebar with SEO-related information. It shows a table for "Organic Results" with the following data:

Category	Value
Organic Results	6
Ad Results	0
Product Listings	0
Local Listings	0
Video Listings	3
Image Listings	1
Fresh Listings	0
News Listings	0
FAQ Data	0

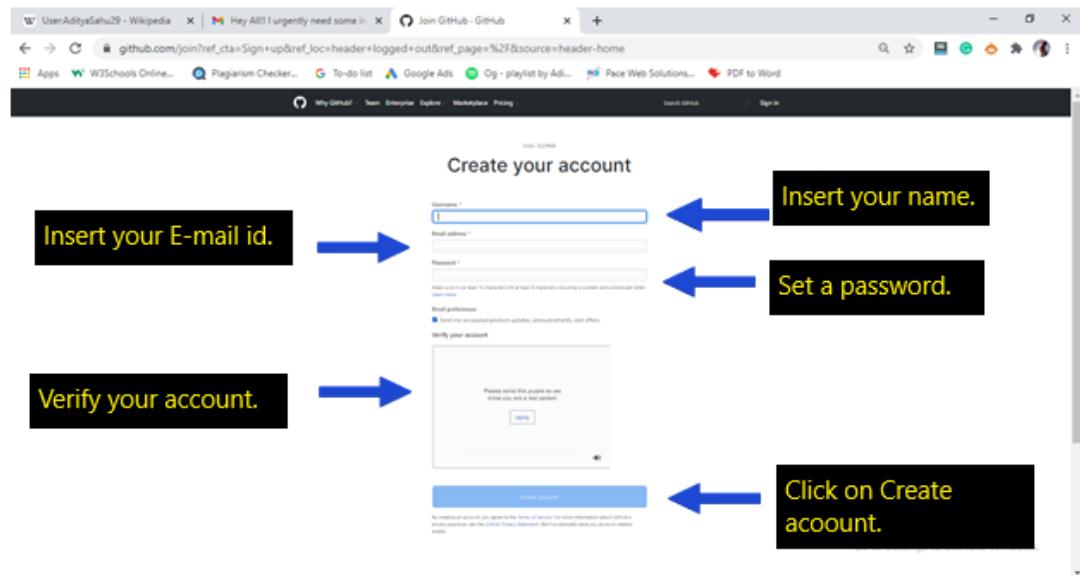
At the bottom of the sidebar, there is a link: "SEO Minion? Please rate us at [Chrome Web Store](#)".

Step 2: Click on the sign up button to create an account on Github.

A screenshot of the GitHub homepage. The main heading is "Where the world builds software". Below it, a subtext reads: "Millions of developers and companies build, ship, and maintain their software on GitHub—the largest and most advanced development platform in the world." At the bottom left, there is a form to enter an email address and a green "Sign up for GitHub" button. At the top right, there are "Sign in" and "Sign up" buttons. A yellow arrow points to the "Sign up" button. The background of the page features a large, stylized globe with glowing blue and purple lines representing network connections and data flow.

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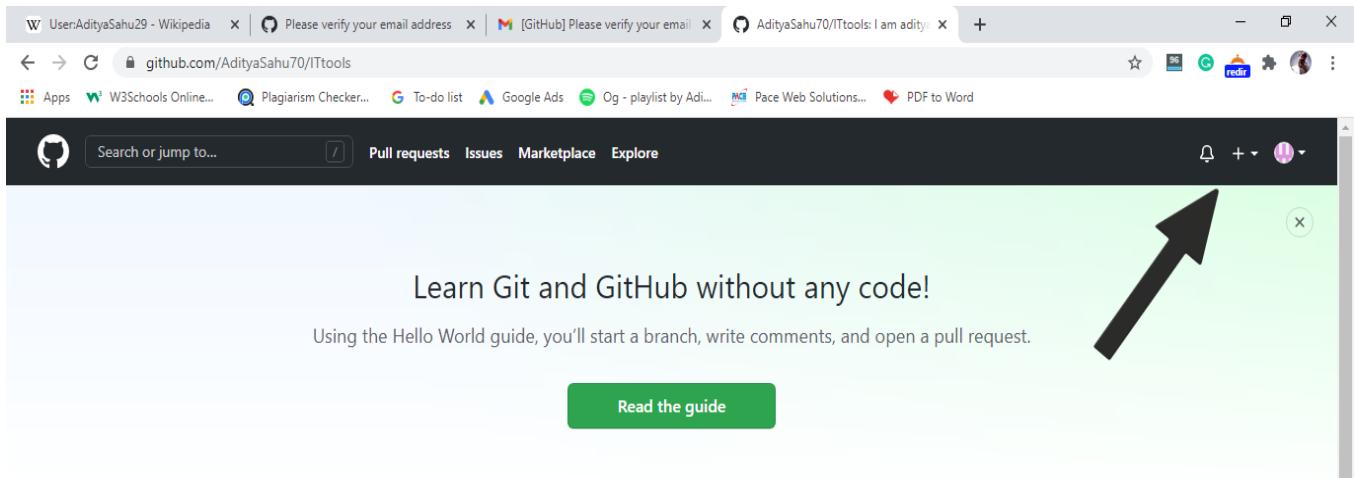
Step 3: When you click on the signup button you will reach on this page here you have to fill all necessary information which is star marked.



Step 4: After fill all the information verify your account and click on the Create Account button. Now your account is created.

a) Creating repository:

Step 1: To create repository click on the + button .

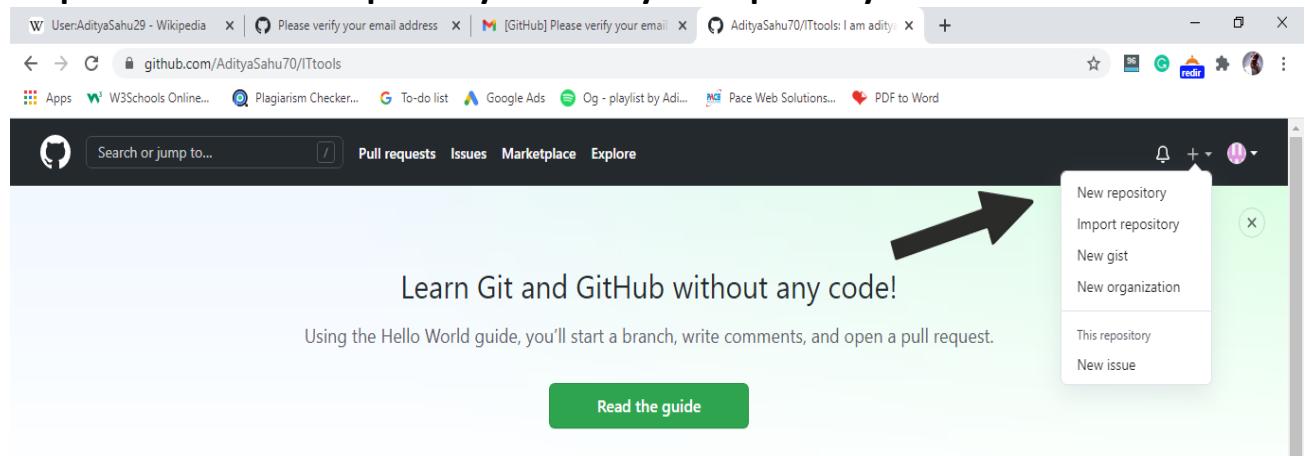


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Step 2: Click on New repository to make your repository.



Step 3: After clicking on the New repository you reach on this page here you have to give your Repository name, click on the private or public button.

Description: It is optional, so if you want to describe something about your repository then fill the description field with necessary information

1 Private: If you want no one can access your repository then click on private button.

2 Public: If you want other people can access your repository then click on public button.

The screenshot shows the 'Create a new repository' form. At the top, it says 'Create a new repository' and 'A repository contains all project files, including the revision history. Already have a project repository elsewhere? Import a repository.' Below this, there are fields for 'Owner' (set to 'AdityaSahu70') and 'Repository name' (with a placeholder '/'). A text area for 'Description (optional)' is shown. Underneath, there are two radio buttons for 'Public' (selected) and 'Private'. Further down, there is a section for 'Initialize this repository with:' which includes options for 'Add a README file', 'Add a .gitignore', and 'Choose a license'. At the bottom, there is a 'Create repository' button.

Write a description about your repository.

Click on create repository.

Insert your repository name.

Select one of them.

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Go to Settings to activate Windows.

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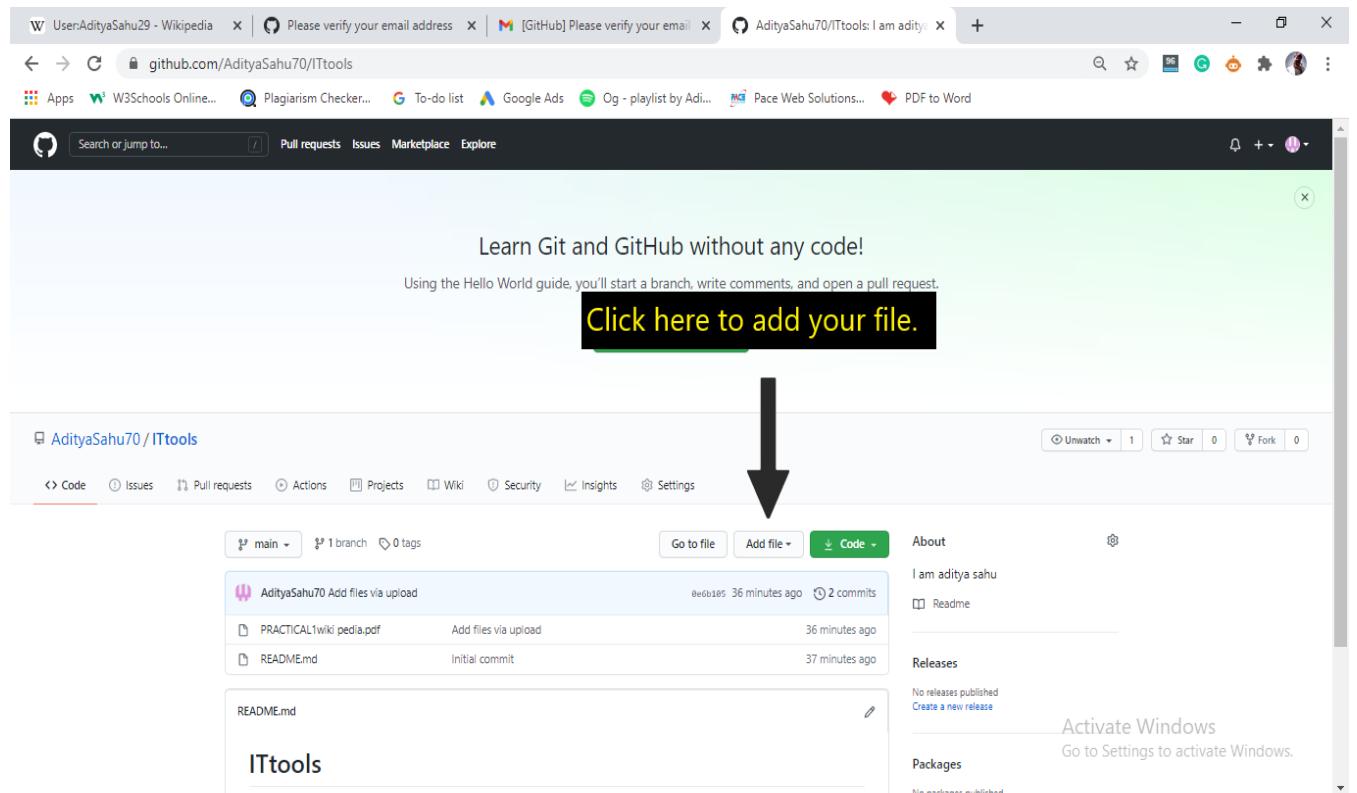
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Step 4: In the last click on the create repository button.

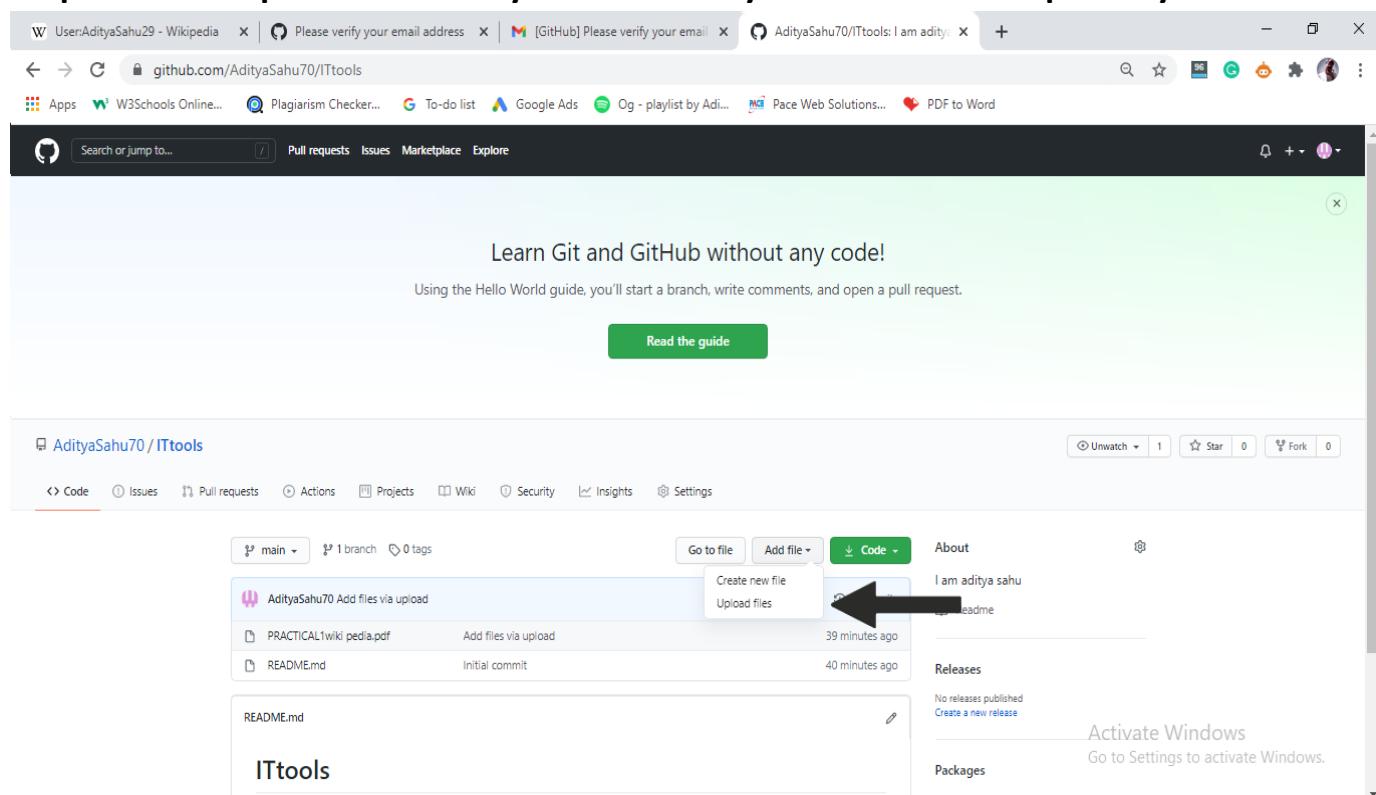
b) Cloning repository:

After clicking on the create repository button you will reach on this page

Step 1: Click on the Add file button .



Step 2 click on upload files here you can add any no of file in the repository.

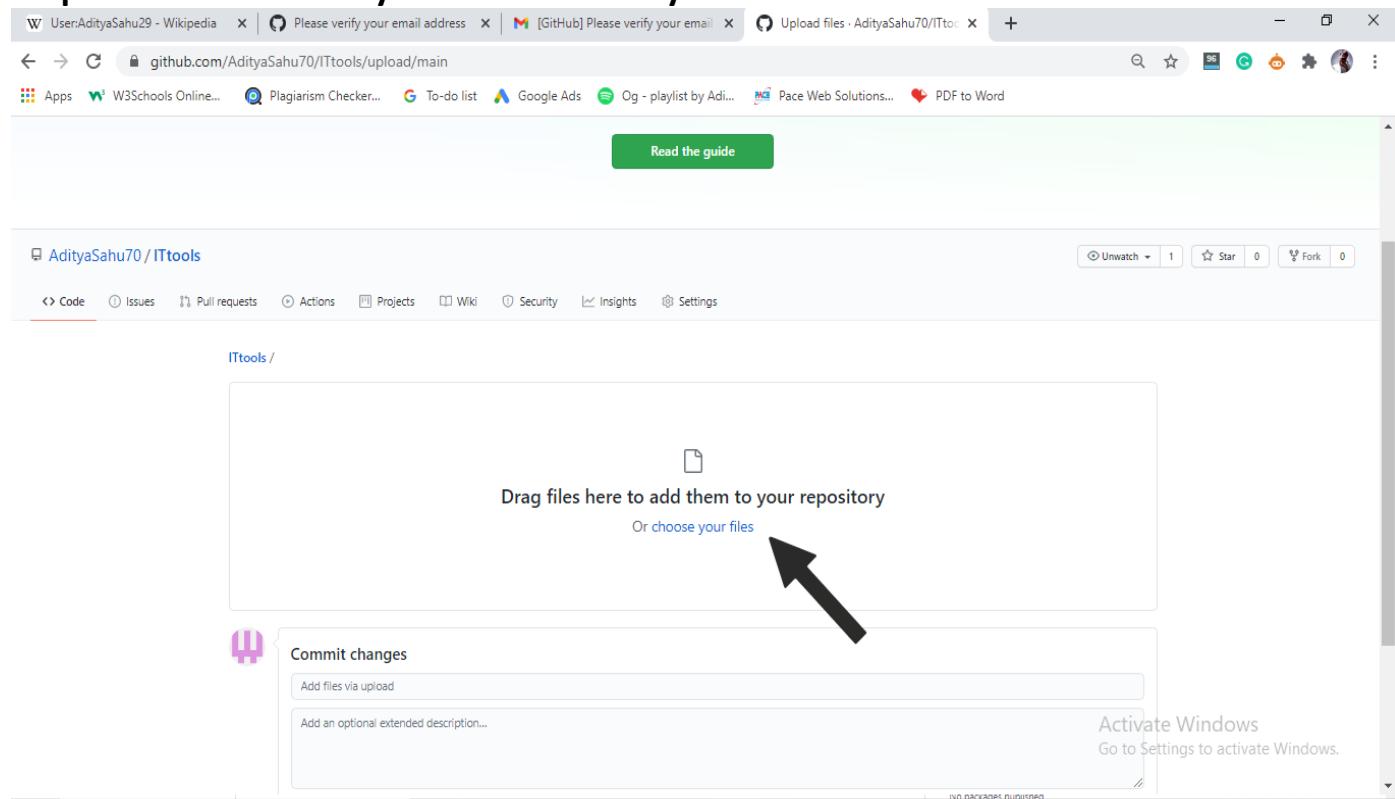


Name: - Aditya Sahu

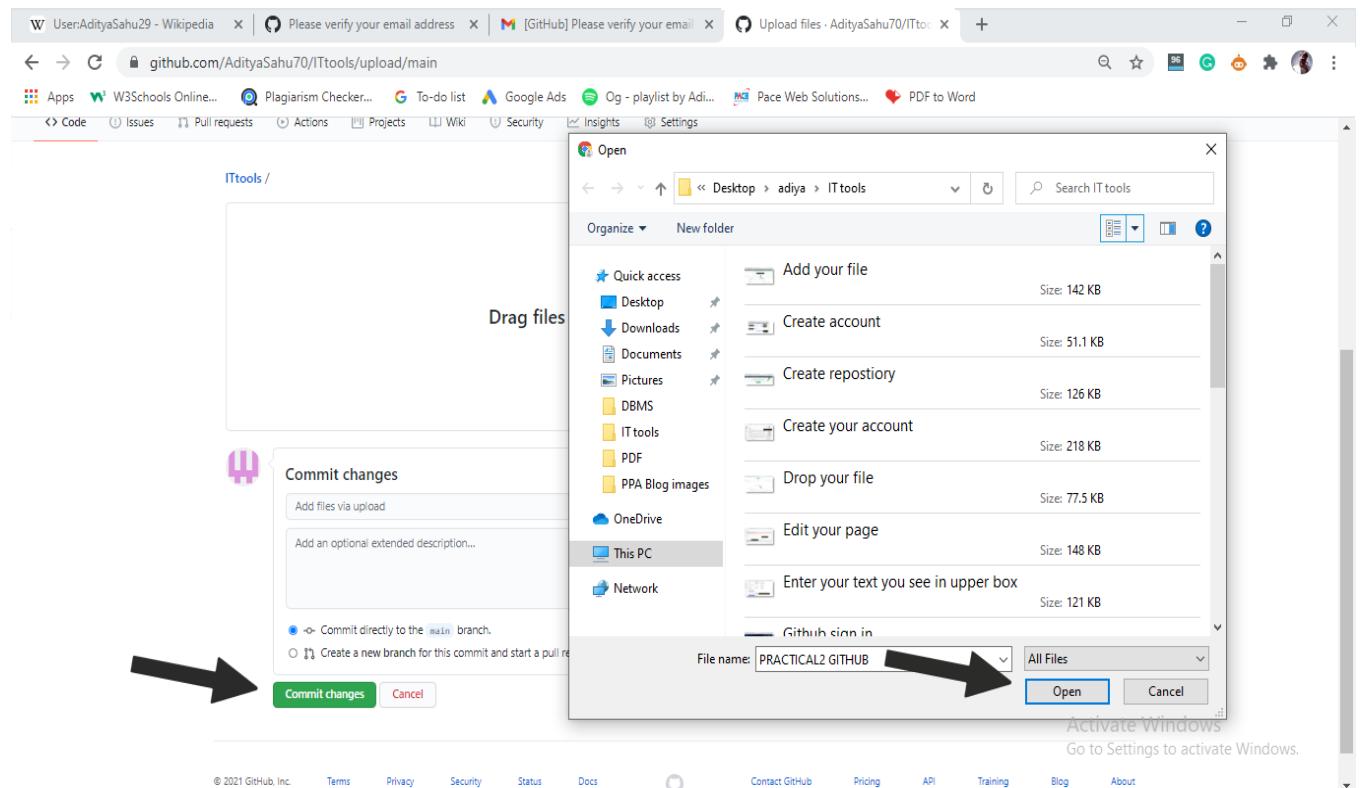
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Step 3: Click on choose your files to select your file.



Step 4: Select the file which you want and click on open button and atlast click on the commit changes button to save the changes.

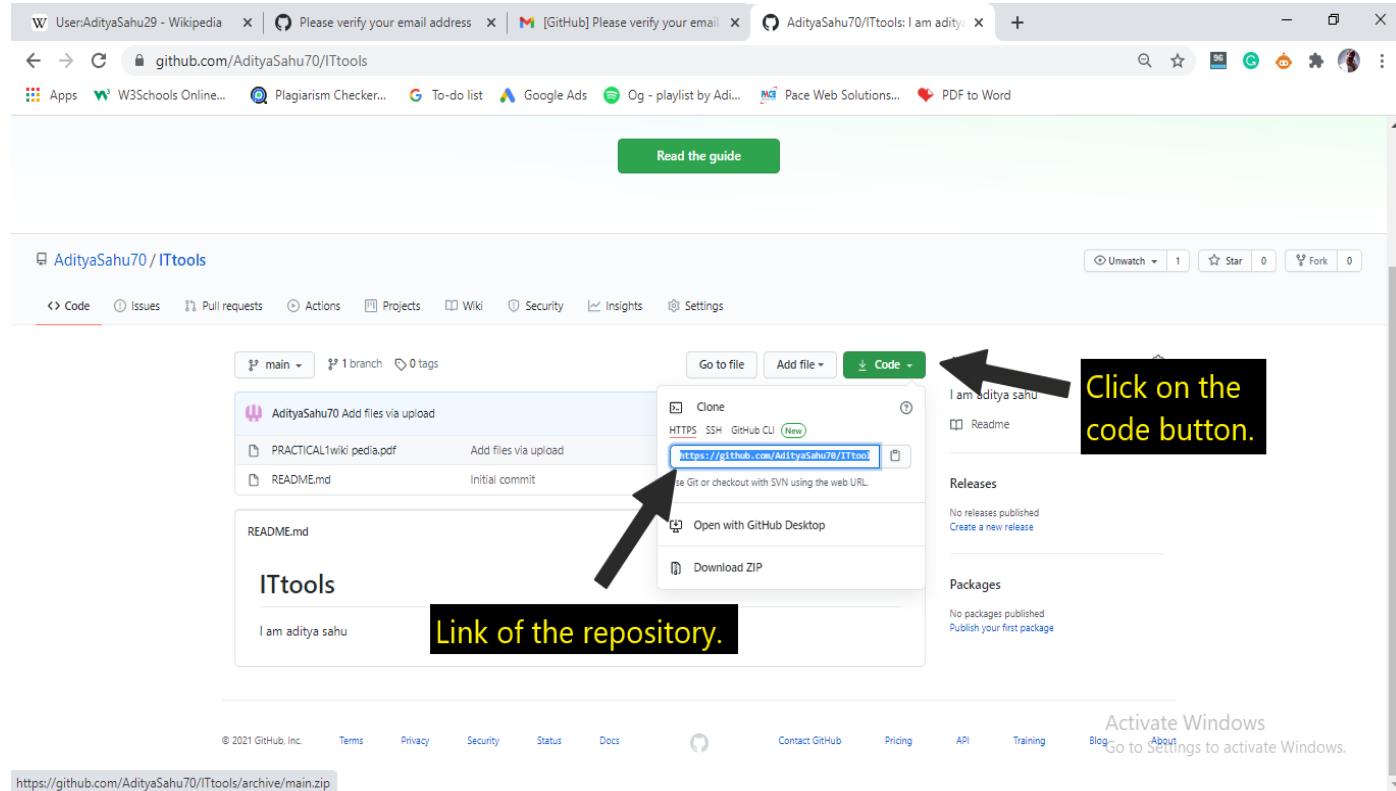


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Step 5: click on the code button to get your repository link and copy the link to share your repository.



PRACTICAL 3:

BASIC UNDERSTANDING ON FREE AND OPEN-SOURCE SOFTWARE

a) Describe Open Source Software with Example.

Open source software (OOS) is software with source code that anyone can inspect, modify and enhance.

The term open source refers to something people can modify and share because its design is publicly accessible. The term originated in the context of software development to designate a specific approach to creating computer programs.

-Source code|| is the part of the software that most computer users don't ever see; it's the code computer programmers can manipulate to change how a piece of software (a -program|| or -application||) works. Programmers who have access to a computer program's source code can improve that program by adding features to it or fixing parts that don't always work correctly.

Open source software is released through a specific kind of license that makes its source code legally available to end-users. The source code can be repurposed into other new software, meaning anyone can take source code and distribute their own program from it.

It includes ten-criteria, relating to matters such as:

- Software redistribution
- Source code availability and integrity
- Distribution and properties of licenses
- Derived works
- Anti-discrimination

Below given are some examples of OPEN SOURCE SOFTWARE:

- Firefox – a web browser that competes with Internet Explorer
- OpenOffice - a competitor to Microsoft Office
- Gimp - a graphic tool with features found in Photoshop
- Zimbra – open source e-mail software that competes with Outlook server
- MySQL, Ingres and EnterpriseDB - open source database software packages that each go head-to-head with commercial products from Oracle, Microsoft, Sybase and IBM
- Free BSD and Sun's OpenSolaris - open source version of Unix operating system

b) Describe Free Software with Example:

Free Software means software that respects users' freedom and community. Free software is computer software distributed under terms that allow users to run the software for any purpose as well as to study, change, and distribute it and any adapted versions.

Roughly, it means that the users have the freedom to run, copy, distribute, study, change, and improve the software. Thus, -free software|| is a matter of liberty, not price.

We campaign for these freedoms because everyone deserves them. With these freedoms, the users control the program and what it does for them. When users don't control the program, we call it a -nonfree|| program. The nonfree program controls the users and the developer controls the program.

Today, free software covers just about every field of computer applications. Because of their high quality and openness, several free software programs have become leaders in their field or comprise the core of an entire industry.

A program is free software if the program's users have the four essential freedoms:

- The freedom to run the program as you wish , for any purpose.
- The freedom to study how the program works, and change it so it does your computing as you wish. Access to the source is a precondition for this.
- The freedom to redistribute copies so you can help others.
- The freedom to distribute copies of your modified versions to other. By doing this you can give the whole community a chance to benefit from your changes. Access to the source code is a precondition to this.

Below given are some examples of FREE SOFTWARE:

- The Linux kernel – Linux kernel is protected by the GPL, and is used daily by millions of people throughout the world. As the kernel, it is one of the most important components of the GNU system
- Apache, the most widely used web server in the world. More than 56% of the web servers on this planet use Apache; far more than its fierce competitors Microsoft and Netscape
- The Gimp is a powerful bitmap mode digital creation program. In spite of being relatively new, The Gimp has rapidly become serious competition for photoshop
- PostgreSQL is an object-relational database. It is currently the most sophisticated free software database available

c) Difference between Free Software and Open Source Software:

S.No.	Free Software	Open Source Software
1.	-Free software means software that respects users' freedom and community. Roughly, it means that the users have the freedom to run, copy, distribute, study, change and improve the software. The term -free software is sometimes misunderstood—it has nothing to do with price. It is about freedom.	Open Source Software is something which you can modify as per your needs, share with others without any licensing violation burden. When we say Open Source, source code of software is available publicly with Open Source licenses like GNU (GPL) which allows you to edit source code and distribute it
2.	Software is an important part of people's lives.	Software is just software. There are no ethics associated directly to it.
3.	Software freedom translates to social freedom.	Ethics are to be associated to the people not to the software.
4.	Freedom is a value that is more important than any economical advantage.	Freedom is not an absolute concept. Freedom should be allowed, not imposed.
5.	Examples: The Free software Directory maintains a large database of free-software packages. Some of the best-known examples include the Linux kernel, the BSD and Linux operating systems, the GNU Compiler Collection and C library; the MySQL relational database; the Apache web server; and the Sendmail mail transport agent.	Examples: Prime examples of open-source products are the Apache HTTP Server, the e-commerce platform osCommerce, internet browsers Mozilla Firefox and Chromium (the project where the vast majority of development of the freeware Google Chrome is done) and the full office suite LibreOffice.

Practical 4: Writing Email

1. Set up and email address. If you do not have an email address you will need to sign up with an email provider before proceeding.



Set up email



Google



Outlook, Hotmail, and Live



Yahoo



Exchange and Office 365



Other

2. Click on “compose” or “new”. Before you can write an email, you will need to open a new, blank message box to write your email.

The screenshot shows a Gmail inbox with the following details:

- Compose** button is visible on the left.
- Inbox** is selected, showing 448 messages. A red box highlights the "448" count.
- Snoozed** and **Sent** buttons are also present in the sidebar.
- Primary** tab is selected.
- Social** and **Promotions** tabs are visible at the top right.
- Search mail** bar is at the top center.
- Activate Windows** watermark is at the bottom right.
- Messages** listed from top to bottom:
 - New announcement: "Tomorrow DBMS TEST ON MOODLE at 8:30am..." - Hi 70_FYIT_, SWEETY GAR... (12:39 PM)
 - LinkedIn News India and others share their thoughts on LinkedIn - Here are your network highlights ... (Mar 30)
 - See more jobs like Jio - Social Media Manager - Check out jobs like - Social Media Manager at Jio ... (Mar 29)
 - Interview Guidance 2020: Webinar with R. P Sinha (IAS retd.) - Dear Aspirants, During an interview a... (Mar 27)
 - Prelims Sampoorn 2021: Indian Economy Current Affairs Yearly Compilation, Download PDF - Dear ... (Mar 26)
 - Prelims Test Series 2021: Classroom and Online, Batch 9 Starts 11 April, Enroll Now - Dear Aspirant... (Mar 26)
 - Looking for Job and others share their thoughts on LinkedIn - Here are your network highlights ... (Mar 26)
 - HDFC Bank InstaAler. 2: View: Account update for your HDFC Bank A/c - Dear Valued Customer, This is to inform you that you... (Mar 25)
 - ckyc: CKYC Number Notification - Dear MR ADITYA MAHENDRA SAHU , Greetings from Central KYC Registr... (Mar 25)
 - GS SCORE: Prelims Sampoorn 2021: Science and Tech Current Affairs Yearly Compilation, Download PDF - Dear... (Mar 24)
- Bottom navigation** includes: Home, All, Sent, Starred, Labels, and Help.

3. List the recipients email address. You do not need to list your own email address, but you do need to specify the email address of the person or people u intend to send the email to.

To customercare@vodafoneidea.com X

4. Include an informative subject. Every email service will let you type a subject or title for your email in the “subject” box.

Complaint about poor internet connectivity

customercare@vodafoneidea.com

Complaint about poor internet connectivity

5. Write the body of your email. The body of your email should be written in the large text box below the subject line.

Complaint about poor internet connectivity

customercare@vodafoneidea.com

Complaint about poor internet connectivity

Respected Sir,

With due respect, I am writing this email to inform you that my internet connectivity is very poor and I am not able to attend my lecture for the past 4-5 days. I am facing trouble as my exams are near and most of the work is done via online mode and for that, I need a proper internet connection.

I hope you'll look into this matter and do the needful at the earliest to fix the internet connectivity problem as soon as possible.

6. Hit The “send” button. After you finish typing your email review It to verify that there are no spelling or grammar mistakes and that the issue clearly addresses the matter you wanted to bring up.

Complaint about poor internet connectivity

customercare@vodafoneidea.com

Complaint about poor internet connectivity

Respected Sir,

With due respect, I am writing this email to inform you that my internet connectivity is very poor and I am not able to attend my lecture for the past 4-5 days. I am facing trouble as my exams are near and most of the work is done via online mode and for that, I need a proper internet connection.

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Activate Windows

Go to Settings to activate Windows

Send

A

Practical 5

Green computing is environmentally responsible and eco-friendly use of computers. It is also defined by being the using and disposing of computing device in a way that reduces their environmental contact. If you're interested in ways to reduce your power consumption, here are ways you can go "green" at home:

1. Even better, turn OFF computers and other equipment when not in use. Despite the debate over whether it's better for your computer to be left on or shut off, the fact is it's better for the environment to shut it off. Trust me, your computer can handle it just fine; in fact, computers were designed to be turned off and back on!
2. Buy the new "Smart Strip" power strip. The Smart Strip actually senses how much power your computer peripherals use. And when the Smart Strip senses that you've turned your computer off, it automatically shuts off your peripherals, too, preventing them from drawing an idle current, which is the current drawn even after equipment is shut off.
3. Buy "Energy Star" labeled monitors, desktops, laptops, and printers. The "Energy Star" devices can be programmed to "power-down" to a low power state when they are not in use, helping you save energy and run cooler which helps them last even longer. The Energy Star specification for computers was revised on October 20, 2006 and goes into effect July 20, 2007. The specification includes new performance requirements to qualify for the Energy Star rating for desktop and notebook computers, workstations, integrated computers, desktop-derived servers and game consoles. Now you can feel good about that upgrade!
4. Put laptops in "sleep" mode when not in use. The EPA has estimated that this reduces their energy use by 60 to 70 percent – and ultimately could save enough electricity each year to power Vermont, New Hampshire, and Maine, cut electric bills by \$2 billion, and reduce carbon dioxide emissions by the equivalent of 5 million cars.
5. E-cycle used computer equipment. Find a recycler in your area. Also, Staples, the office supply retailer, has now started a recycling program. They will accept any brands of used desktop and notebook computers, monitors, printers, fax machines and all-in-one devices with a fee of \$10. Smaller items like keyboards, mice and speakers are free to drop off.

Speaking of going green, yesterday was the huge Live Earth event, a series of worldwide concerts to raise awareness about the global climate crisis. You can catch up on what you missed over at the Live Earth website, where they feature streaming videos from the concerts, photos, news, and more information about going green.

Practical 6

← SEO

What is SEO, Its Importance, Tools, Types and Process.

March 23, 2021



Definition:-

The process of maximizing the number of visitors to a particular website by ensuring that the site appears high on the list of results returned by a search engine.

Meaning:-

SEO (Search Engine Optimization) is a process for ranking your website and being visible to your customers and targeted audience easily when they search for it. SEO helps your website for better engagement and traffic. It provides a boost to the website and helps to grow your business among others.

Introduction:-

- SEO stands for **SEARCH ENGINE OPTIMIZATION**. Well, it's used for better engagement of your brand or website to rank higher on the search engine and it helps you to get more traffic for your website and make ideal visitors into ideal customers. SEO is a good tool used by business companies to get traffic on the website and be more visible on search engines by using various tools such as content, keywords, audits, optimizing your website. If you want to rank in the search engine you can also hire the [best SEO company](#) like PACE WEB SOLUTIONS.

Types of SEO:-

1. On-Page SEO.
2. Off-Page SEO.
3. Negative SEO.
4. White Hat SEO.
5. Black Hat SEO.
6. Grey Hat SEO.
7. Technical SEO.

On-Page SEO:-

1. On-page means the measures we take to make our website rank higher on the search engine.
2. On-Page SEO includes high-quality content to make visitors helpful and easily digestible about the topic.
3. Using HTML tags to highlight the heading of content and make sure there are no duplicate content/broken links in the content or SEO will lower your ranking in search engines.

CONTENT OR SEO WILL LOWER YOUR RANKING IN SEARCH ENGINES.

4. In SEO it needs to be your URL to be short and with the ordered naming system in a proper way that comes under similar webpage search under the search engine.
5. For better rankings on the search engine, images in your content are chosen to be not too big or it lowers your site rankings.

Off-Page SEO:-

1. Off-page is a term of activities you do outside of your website to build backlinks for better results of your site.
2. The main agenda of Off-page is to make quality content, relevant, attractive, and eye-catching content and to make trustworthy backlinks.
3. Off-page also includes having blogger outreach, building broken backlinks, posting forums, and social networking.
4. Work that is done by the person for the website is called off-page SEO.

Negative SEO:-

1. Among the different types of SEO, there is Negative SEO which is used to make suffer your competitor's site so your site can place better rankings in an unethical way.
2. Negative SEO is done by hacking into someone's site to make their value down and make a high number of low-quality links.
3. Negative SEO is done to make negative reviews in sites and into other platforms to low rankings.
4. If someone is caught doing Negative SEO can lead to legal orders and punishments.

White-Hat SEO:-

1. White-Hat SEO is a legalized practice done by all web developers.
2. In White-Hat SEO there is low risk and high rewards.
3. It needs to be patient to see results and create good genuine goodwill among the brand.
4. There is no risk of your site getting banned and getting low ranked in the search engine if there is a new algorithm change.

Black-Hat SEO:-

1. Black-Hat is the opposite of White-Hat SEO in which finds and takes advantage of the weakness in the search engine to rank higher in Google's new algorithm changes in SERP.
2. Black-Hat SEO is highly risky for SEO techniques.
3. This does not stick in the search engine list of SEO dos and don'ts and shows different content to bots.
4. Black-Hat SEO goes with saying to get your site can be blacklisted or can rankings drop and it is to be avoided.

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Go to Settings to activate Windows.

Activate Windows
Go to Settings to activate Windows.

• **Grey-Hat SEO:-**

1. Grey-hat SEO is used by SEO agencies to see the quick results of a client between White-hat and Black-hat SEO in terms of approach.
2. Such methods are not prohibited written in Google's Webmaster Guidelines.
3. Grey-hat SEO can also lead to many undesired search outcomes.
4. Grey-hat SEO includes suspicious link exchange between sites, paid reviews for sites, and clickbait content, and no information to the user.

• **Technical SEO:-**

1. Technical SEO helps Google bots to crawl successfully and to index all the pages for future use.
2. If you make Your site from the XML sitemap making your site mobile-friendly.
3. It sorts the web crawlers to categorize the content of your pages are based on the content they carry are some of the techniques.
4. And for more information do refer to what is Technical SEO insights.

Tools used for SEO:-

1. Google Analytics.
2. Moz (SEO).
3. Google PageSpeed Insights.
4. SimilarWeb.
5. SEO SiteCheckup.
6. Google Search Console.
7. SpyFu.
8. Cyfe.
9. Social Mention.
10. Google Keyword Planner.

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• [Google Analytics](#):-

Google Analytics

Anywhere. Anytime.



1. We should use this tool because we need to know about our customers and the targeted audience visiting our website.
2. With the help of this tool, we can track real-time traffic, audience visited, behavior, and total sales are done, etc.
3. Once you start using this tool, let the tool take some time to read enough data, and then the tool will provide and

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• [Moz \(SEO\)](#):-



1. Moz (SEO) tool is very easy and understandable, you can see your listing by just entering your business name and postal code/zip code.
2. Moz (SEO) tool helps you to see the listings of your website not only on Google but also on other search engines like Yahoo, Bing, Twitter, and Onesearch, etc.
3. Moz (SEO) tool also helps you by calculating and comparing your current score and your rival's current score.

• [Google PageSpeed Insights](#):-

Using **Google** Pagespeed Insights



1. Google PageSpeed Insights tool helps you to be very fast and accurate when it comes to the search engines list or loading your content.
2. Google has now set up some algorithms which are regarding your website's loading speed.
3. Google PageSpeed Insights tool also helps you to know about your website's user interface and detects the issue and provides solutions for free.

• [SimilarWeb](#):-



1. SimilarWeb is not only a free tool to use but also very easy to use.
2. SimilarWeb is the best way to keep an eye on your website and your rival's website.
3. It's not likely to use SimilarWeb daily but once in a while.
4. SimilarWeb also tracks your website and show the score in a very systematic and easy to read manner.

• [SEO SiteCheckup](#):-



1. SEO SiteCheckup provides a very huge variety of features like analysis of SEO issues, SEO monitoring, and competition monitoring.
2. If you are lucky your website will receive a perfect score this means you are doing everything right with an SEO perspective.
3. This tool will help to push your website on search results of search engines.

• [Google Search Console](#):-

Ultimate **Google** Search Console Guide

1. Google Search Console is yet another tool that is developed by Google itself.
2. This tool will help you to track and keep an eye on your website and the dashboard will help you and give you a solid overview of your website.
3. It will provide information about search analytics, link to your site, internal links, and mobile usability.
4. It also analyzes your performance and gives a score which is very helpful for small businesses.

• SpyFu:-



1. SpyFu will help you to discover more and new keywords that can help you to rank higher.
2. This tool will help you to determine your and your competitor's key to success.
3. It will showcase an easy to read or systematic report of you and your competitor's website and will allow getting the same links.

• Cyfe:-



1. Cyfe is one of the most user friendly business dashboard solution provider.
2. This tool will provide you to track every data from your website in only one single click.
3. Cyfe is one of the largest libraries of business dashboard providers.
4. It also connects social media sites like Facebook, Twitter, YouTube, and Pinterest, etc.

• Social Mention:-



1. Social Mention is the tool that will help you to see the real-time search and analysis.
2. It also provides other information like top hashtags and top keywords.
3. If you want to track social networks without wasting time you can use Social Mention.

- [Google Keyword Planner:-](#)



1. Google Keyword Planner is yet another tool that is made by Google to find keywords.
2. Google Keyword Planner is a tool that helps you to find better keywords for your website to rank in the search engine.
3. Google Keyword Planner provides features like average monthly searches of a keyword and competition between keywords.

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What is SEO? It's importance:-



SEO is a different element made up of and knowing how SEO works and what they are is the key to understand why is SEO important. In short, it is an important key that makes your site more visible and means that are more opportunities to convert audiences, visitors, into customers. SEO mainly refers to make your website position increase in the search engine results page (SERPs) the main SERP examples are Google, Yahoo, and Bing, and if you make relevant and quality content to make your website rank on SERP. SEO is the process of optimizing your content on search engines to show it on top of SERPs of certain keywords of your content.

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- [Features of SEO:-](#)

1. The features of SEO is to customize your meta tags, title, and URLs.
2. SEO helps to make your URL structure simple, with small 301 redirects.
3. Mobile friendly customization.
4. Builds powerful relations with your ideal customers.
5. It helps make your internal search features powerful and proper indexation of SERP.

Advanced SEO:-

- Advanced SEO is full of expertise in your techniques. It includes certain technical information on the understanding of how advanced SEO works in the new Google algorithm change schema and indexing works. The advanced SEO tips are as follows.

1. [Mobile-first indexing.](#)
2. [Schema Implementation.](#)
3. [Google Algorithm.](#)
4. [Crawler.](#)
5. [Indexing.](#)

- [Mobile-first indexing:-](#)

There are most websites mobile-friendly and out of 10, it is 9.5 is total of search through mobile phones. Google has migrated to the system of mobile-first indexing. It involves crawling and indexing the version of mobile by default. As in this digital era of technology numbers of users are growing rapidly, developers should focus on the mobile-friendly, and responsive website and must work on formats that are compatible with mobile phones.

- [Schema implementation:-](#)

The term schema implementation is of schema.org that represents it is a vocabulary of tags that can be added to the HTML of the website to improve their reading of search engines to rank up the website on SERPs. The implementation of schema in HTML is to improve the visualization appeal and to enhance the rich snippets displayed below the page title tags.

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• Google algorithm:-

Getting updated about the latest changes in the Google algorithm helps to improve your search rankings and it is the most important thing to keep in mind to ranks up in SERPs. And the most helpful thing is to make your website rank is to be updated about the new Google algorithm change with the help of Panda, Penguin, Fred, and Hummingbird. Google algorithms keep on changing and updating every day. Google works one hour of the day for their algorithms.

• Crawler:-

Search engines like Google, Bing, Yahoo, and Twitter use a bot or crawler who is used to crawl on every web page and determine the optimization of the website, and the pages which fit the algorithm search have resulted or indexed. The crawler is also known as a spider. The crawlers or bots may look at several different factors of the web page.

• Indexing:-

'Index' has all the information about the pages crawled by the search engine crawler. Indexing has the most vital role as it helps to rank the website. Indexing is the process that gathers the information in the search index database. The database compares the data is stored with SEO algorithm metrics compared to similar pages.

Basic strategies to rank up:-

1. Improve your webpage's loading speed.
2. Optimize its content and images.
3. Start blogging.
4. Create outbound links as much as you can.
5. Create backlinks of your webpage and it should not be on the same website but also unique websites.
6. Be consistent on your webpages.
7. Provide good and quality content or information.
8. The webpages keyword should match its meta title.
9. Your keyword should be relatable to your content.
10. Use bullet listing or number listing in your blog to make it attractive and readable.
11. Optimize your content by using keywords in your heading tags.
12. Use a balanced amount of images, videos, and text.

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• How to do Keyword Research in SEO:-

Keyword research includes the identification of key terms that customers use while searching on the search engines.

• Importance of keyword research:-

It is easy to research keywords and because of Google, it is easy for a businessman to present their products online in front of the targeted audience. Many customers research online before purchasing a product.

1. Creating a list of ranking keywords.
2. To categorize the list of keywords related to your ideas.
3. Identifying the list of keywords in the existing list.
4. To identify the SERPs competitors
5. To identify the competitors of SERPs that are ranking or targeting for.

• Url structure:-

The importance of URL structure in the SEO URL is the most basic tool in SEO. Many SEO experts tend to look over it. Good and small URL helps to rank good in search engine and improve the navigational experience. It can track by Google Analytics or Adobe Analytics to the monitoring process.

• What is the URL?

URL means Uniform Resource Locator an abbreviation and used to identify the address of the particular documents. URL consists of parts that include "a protocol or a domain name". It tells a browser about how to and from where to retrieve the resource.

• What is the Importance of URL structure in SEO?

As you see the SERPs result carefully, u won't see a URL that has an improper structure.
Every search result sees three main components.

1. Title
2. URL &
3. Description.

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There are many other reasons for the importance of URL in SEO, they are

1. User experience
2. Rankings
3. Tracking in analytics
4. Keeping it simple.

In Today's world, there is a competition in ranking in search engines that is higher than ever. Businesses are heavily focusing on digital marketing and SEO to make every chance to rank high and boosting up the business.

Conclusion:-

SEO is a very important process of a webpage that helps in optimizing the webpage. Several tools are used to analyze different SEO factors. The important factors re to be analyzed are content, backlinks, keyword, optimization, and domain.

Practical 7

PEP8 is a style guide for python code.

- PEP stands for Python Enhancement Proposal, and they describe and document the way python language evolves.
- It was written in 2001 by Guido van Rossum, Barry Warsaw, and Nick Coghlan.
- A PEP is a document that describes new features proposed for Python and documents aspects of Python, like design and style, for the community.
- They also provide a reference point (and a standard) for the pythonic way to write code.
- It also has a lot of programming recommendations and useful tips on various topics, which aim to improve readability and reliability of your code
- PEP8 features:
 1. Plugin architecture: Adding new checks is easy.
 2. Parseable output: Jump to error location in your editor.
 3. Small: Just one Python file, requires only stdlib. You can use just the pep8.py file for this purpose.
- Python program to find factorial of a number:-

```
1 #Python program to find factorial of a number
2
3 num = 10
4 factorial = 1
5 # check if the number is negative, positive or zero
6 if num < 0:
7     print("Sorry, factorial does not exists for negative numbers")
8 elif num == 0:
9     print("The factorial of 0 is 1")
10 else:
11     for i in range(1, num + 1):
12         factorial = factorial*i
13 print("The factorial of",num,"is",factorial)
```

- Output:

```
PS C:\Users\Aditya\Desktop\adiya\IT tools> & C:/Users/Aditya/AppData/Local/Programs/Python/Python39/python.exe "c:/Users/Aditya/Desktop/adiya/IT tools/factorial.py"
The factorial of 10 is 3628800
```

LEED

Leadership in Energy and Environmental Design

Group no:-12

- Abdullah Sunasara 108
- Raghavendra Rao 69
- Dwiti Joshi 31
- Prit modi 47
- Aditya sahu 70
- Abhishek pal 55
- Saqeeb Ballari 113
- Punit maru 39
- Jay dave 129
- Vidhi Patel 61

What is Leed?

- LEED (Leadership in Energy and Environmental Design) is the most widely used green building rating system in the world. Available for virtually all building types, LEED provides a framework for healthy, highly efficient, and cost-saving green buildings. LEED certification is a globally recognized symbol of sustainability achievement and leadership.
- A way to define and measure “green buildings”:
- Categorized into building/project types
- New Construction.
- Existing Buildings.
- Commercial Interiors.
- Core and Shell.
- LEED for Homes.
- Neighborhood Development

LEED Rating System

- Seven Categories with slightly different requirements.
- Point allocation based on project type/ rating system:
- Sustainable Sites.
- Indoor Environmental Quality.
- Energy and Atmosphere.
- Materials and Resources.
- Innovation and Design.
- Water Efficiency.

Sustainable Sites

- The **Sustainable Sites** (SS) category is about making decisions based on having less impact to the environment

Sustainable Site Planning Topics to Cover

- Site Selection
- Site/Building Layout
 - Impervious Surfaces
- Grading Considerations
- Stormwater Management
- Landscape Design

Points to be Avoided :-

- Prime farmland
- Previously undeveloped land with an elevation lower than 5 feet above the elevation of the 100-year flood as defined by the Emergency Management Agency;
- Land identified as habitat for any species or state threatened or endangered list
- land within 100 feet of any wetlands
- Previously undeveloped land within 50 feet of a body of water which supports or could support fishing, recreation
- Land which was public parkland.

Indoor Environmental Quality (IEQ)

- Indoor environmental quality (**IEQ**) refers to the quality of a building's environment in relation to the health and wellbeing of those who occupy space within it. **IEQ** is determined by many factors, including lighting, air quality, and damp conditions.
- IEQ is determined by many factors, including lighting, air quality, and other condition

Critical Components

- Indoor air quality — odors, indoor air pollution, fresh air supply,...
- Thermal comfort or indoor climate —Temperature, moisture, air velocity
- Visual or lighting quality —View, illuminance, luminance ratios, reflection,...
- Acoustical quality —Outside and indoor noise and vibrations

Energy and Atmosphere

- Improving energy efficiency is one of the easiest ways to save money and improve the sustainability of a building. Therefore almost a third of the points available in LEED are found in this category. Projects can earn these points by making the building more efficient than a code baseline building of similar size and shape, commissioning the building systems, and adding renewable power sources to the project.

Materials & Resources

- Did You Know? The most sustainable thing we can do is not build since a typical 1,700 square foot wood framed home requires the equivalent of clear cutting one acre of forest
"Reuse of existing buildings is one of the most effective strategies for minimizing environmental impacts" since it adds less garbage to landfills. Construction and demolition waste streams constitute 40% of total waste in U.S. Use of local reused material reduces transportation waste

Materials & Resources

- A LEED Materials and Resources Points earned for:
 1. Storage & Collection of Recyclables.
 2. Construction Waste Management, Divert 50% from Disposal.
 3. Choosing Materials with a minimum 10% Recycled Content.
 4. Choosing FSC Certified Wood.

Innovation and design

- Instead of creating a new product and then "selling" it the public, innovative design is a process of identifying, pinpointing, and understanding the needs of the user or audience.
- Design Innovation, as you can infer, is a process used to create innovation. It focuses on addressing people's needs with what is technologically feasible and devising a viable business strategy to derive value from this market opportunity.

Water Efficiency

Did You Know?

Everyday 4 of nations total supply of water is used with 65% discharged treated or untreated in rivers, streams and lakes.

" U.S. extracts 3,700 billion gallons from the aquifer more than they return.

a LEED Water Efficiency Points earned for:

- Water efficient Landscaping
- Minimizing or utilizing Wastewater
- Other water efficient features
- Low-flow shower heads

Water Efficiency

WE Credit 3.1: Water Use Reduction: 20% Reduction

Maximize water efficiency within buildings to reduce the burden on municipal water supply and wastewater systems.

Requirements

Employ strategies that in aggregate use 20% less water than the water use baseline calculated for the building (not including irrigation) after meeting the Energy Policy Act of 1992 fixture performance requirements. Calculations are based on estimated occupant usage and shall include only the following fixtures (as applicable to the building): water closets, urinals, lavatory faucets, showers and kitchen sinks.

LEED Basics

- Must commit to sharing whole-building energy and water usage data
 - for a period of at least 5 years
 - in a free, accessible, and secure online tool or, if necessary, taking any action to authorize the collection of information directly from service or utility must carry forward if the building or space changes ownership or lesser providers

LEED Basics

2009 Minimum Program Requirements

1. Must comply with environmental laws
2. Must be a complete, permanent building or space
3. Must use a reasonable site boundary
4. Must comply with minimum floor area requirements
5. Must comply with minimum occupancy rates
6. Must commit to sharing whole-building energy and water usage data
7. Must comply with a minimum building area to site area ratio

What is a “Green Building”

- A 'green' building is a building that, in its design, construction or operation, reduces or eliminates negative impacts, and can create positive impacts, on our climate and natural environment. Green buildings preserve precious natural resources and improve our quality of life.

Why go “Green”?

- Improves Your Health.
- Improves Air Quality.
- Slow down Climate Change.
- Reduces Carbon Emissions by Green Travel.

Why go “Green”?

- Reduces Carbon Footprint.
- Prevent Water Pollution.
- Increases Productivity.
- Sets an Example For Others.

GREEN GLOBES

- The Green Globe certification is a structured assessment of the sustainability performance of travel and tourism businesses and their supply chain partners. Businesses can monitor improvements and document achievements leading to certification of their enterprises' sustainable operation and management.

GREEN GLOBES

- Two Categories:
 - New Construction.
 - Continual Improvement of Existing Buildings.

GREEN GLOBES

- New Construction – 2 Stages
 - Stage I -- review of construction documents, working drawings, landscape designs, energy analysis, LCA documentation, commissioning reports, etc.
 - Stage II -- onsite walk through, review of additional documentation, and interview of key team members.

GREEN GLOBES

- Continual Improvement of Existing Buildings:
 - extensive documentation review and an on-site visit with a walk through and interview of facility manager and chief engineer.

Why Green in Interior Design?

- In all categories there are Prerequisites that must be met.
- LEED Leadership in energy and environmental design .
- Buildings consume 37% of total energy and 68% of the electricity consumed in the U.S..
- Each day 5 billion gallons of potable water is used to flush toilets
- Typical construction project generates 2.5 pounds of waste per square foot of floor space.
- Quality of Life improvements for building inhabitant so
- Client requests

Typical Client Motivation

- Attitudes: Care about the environment.
- Goals:- Reduce operating costs· Save on Energy, water, wasteEnhance Building Marketability
- Other Goals:- Increase worker productivity (Production gains up to 16%)Reduce absenteeism because of "Sick building syndrome".
- Reduce liability / Increase loyalty LEED Leadership in energy and environmental

“Defining Success Together”

- Because of various standards and outcomes, it is important to work with client to understand just what client wants to achieve in undertaking a “green building” project.
- Green Building legal issues revolve around:
 - Identifying parties’ “values” and negotiating agreements that result in “wins”.
 - Allocating risks, benefits, burdens and responsibilities.
 - Anticipating and avoiding unnecessary trouble.

Is Green – Real or Just Marketing

- Because of various standards and outcomes, it is important to work with client to understand just what client wants to achieve in undertaking a “green building” project.

Is Green – Real or Just Marketing

- LEED not necessarily valued in marketplace
 - 2009 RICS Study: LEED rating did not statistically improve rents while Energy Star rating associated with rents higher by 3.3%

THANK YOU



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(ISO 9001:2015)**

CERTIFICATE

Name: Mr./Ms. Aditya Mahendra Sahu

Roll No: 70 Programme: BSc IT/CS Semester: II

This is certified to be a bonafide record of practical works done by the above student in the college laboratory for the course **IT platforms, Tools and Practices** (Course Code: **2026UISTP**) for the partial fulfillment of Second Semester of BSc IT/CS during the academic year 2020-2021.

The journal work is the original study work that has been duly approved in the year 2020-2021 by the undersigned.

External Examiner

**Subject-In-Charge
(Ms. Sweety Garg)**

Date of Examination: (College Stamp)