UNEARTHING THE ENVIRONMENTAL IMPACT OF HUMAN ACTIVITY: A GLOBAL CO2 EMISSION ANALYSIS

Miniproject on

Unearthing the Environmental Impact of Human Activity: A Global CO2 Emission Analysis

BECHELOR OF SCIENCE

In

Mathematics

By

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M.DEVI

O.THANALAKSHMI

RAJAPALAYAM RAJUS' COLLEGE

A Linguistic Minority Co-Educational Institution, & Affiliated to Madurai Kamaraj University

(Re-Accredited (3rd Cycle) with "B++"Grade (CGPA 2.93/4.00) by NAAC)

RAJAPALAYAM

Unearthing the Environmental Impact of Human Activity: A Global Co2 Emission Analysis

1.Introduction:

1.1.Overview

Carbon dioxide (co2) is released into Earth's atmosphere mostly by the burning of carbon-containing fuels and the decay of wood and other Plant matter. Under all Conditions found naturally on earth. Co2 is an invisible, odorless gas. It is removed from the atmosphere mostly by plants which extract carbon from co2 to build their tissues and by the oceans in which co2 dissolves. Because co2 in opaque to infrared radiation in the

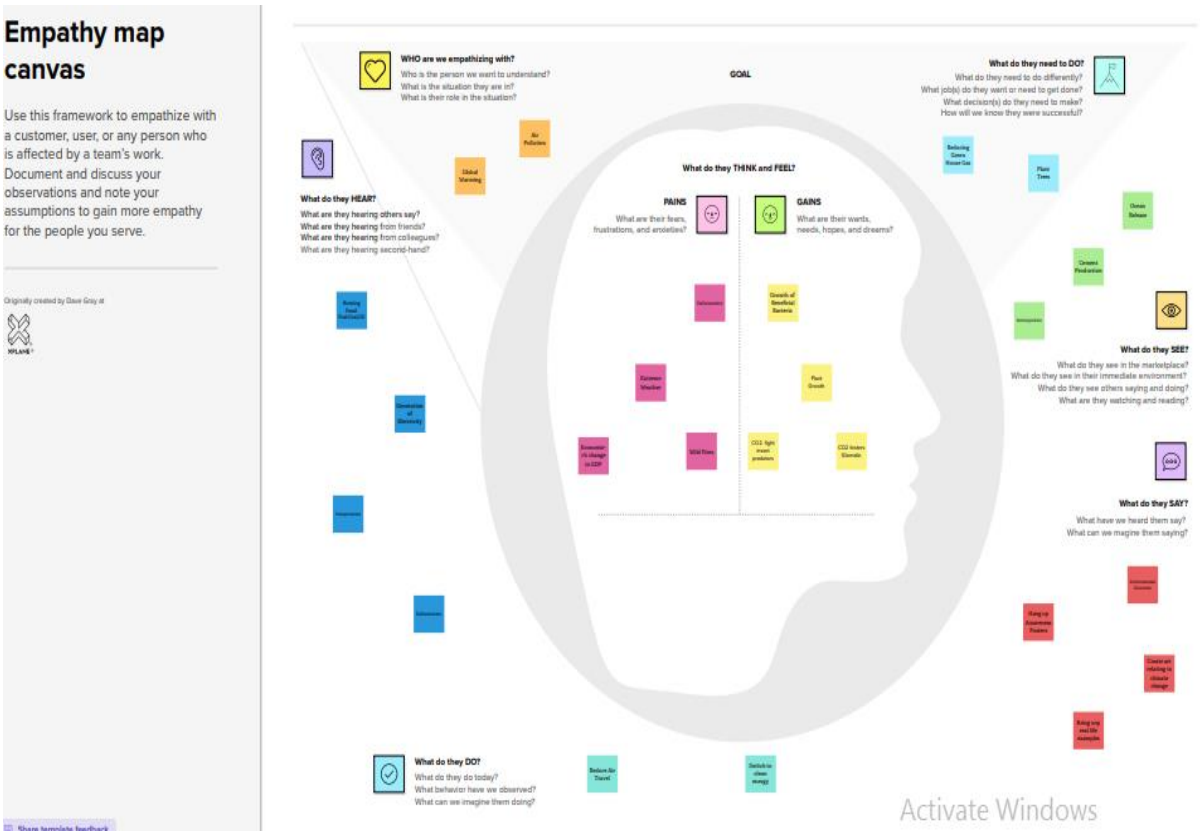
atmosphere, it acts as a blanket to slow the loss of heat from earth into space. Although other gases are also causing earths climate to warm. C02 alone is responsible for about three - fourths of global warming.

Purpose:

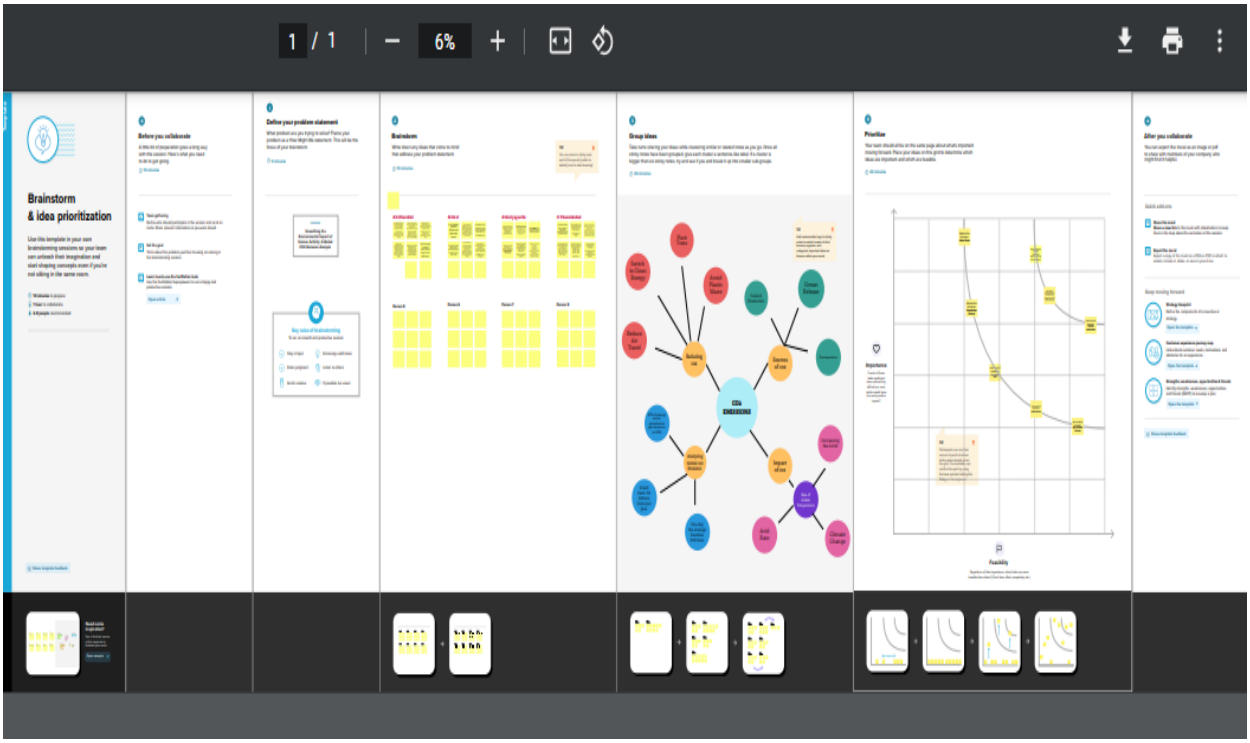
In this project we are trying to analysis the Global C02 Emission and Reduce & Control C02 Emission.

2. Problem Definition & Design Thinking:

2.1. Empathy Map:



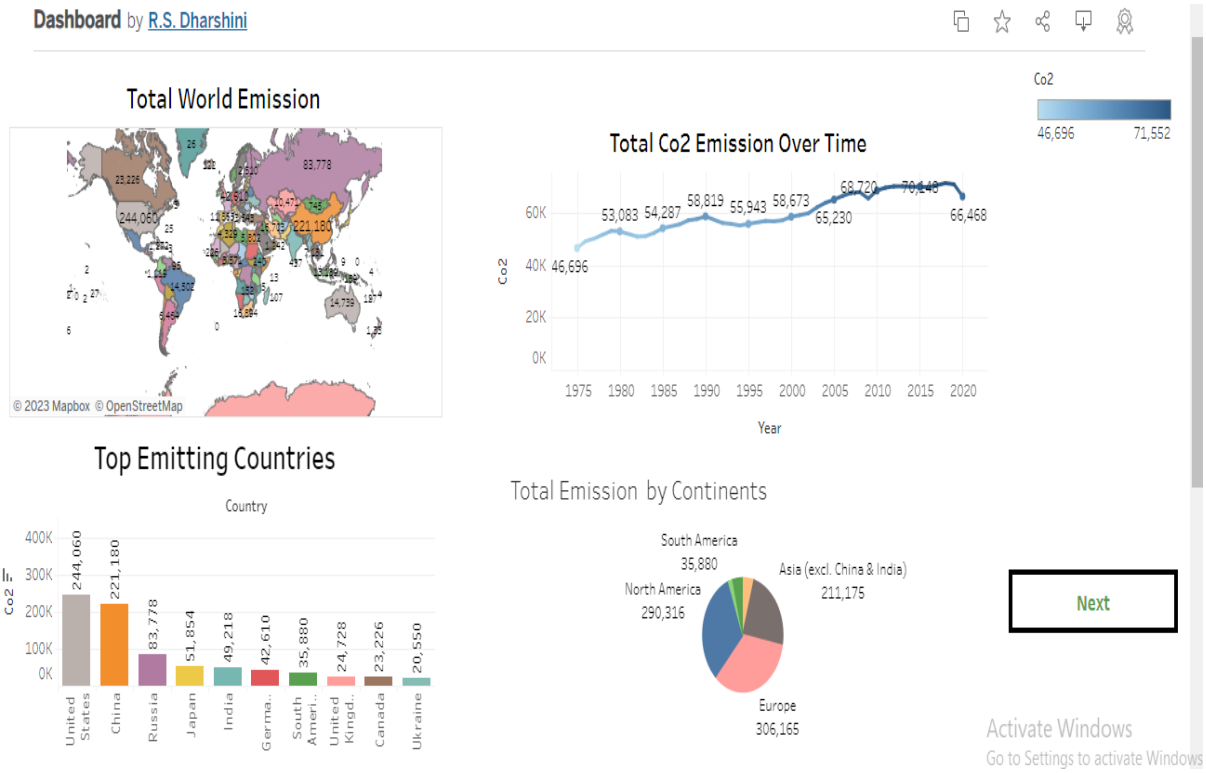
2.2. Ideation & Brainstorming Map:



3.RESULT:


Start Bootstrap
DASHBOARD
STORY
ABOUT
TEAM
Welcome To NAAN MUDHALVAN Project!
CO2 EMISSION

DASHBORAD


Dashboard by R.S. Dharshini
Total World Emission
© 2023 Mapbox © OpenStreetMap
Co2
46,696
71,552
Total Co2 Emission Over Time
60K
40K
20K
0K
Co2
46,696
53,083
54,287
58,819
55,943
58,673
65,230
68,720
66,468
1975
1980
1985
1990
1995
2000
2005
2010
2015
2020
Year
Top Emitting Countries
Country
400K
300K
200K
100K
0K
Co2
244,060
221,180
83,778
51,854
49,218
42,610
35,880
24,728
23,226
20,550
United States
China
Russia
Japan
India
Germa..
South Ameri..
United Kingd..
Canada
Ukraine
Total Emission by Continents
South America
35,880
Asia (excl. China & India)
211,175
North America
290,316
Europe
306,165
Next
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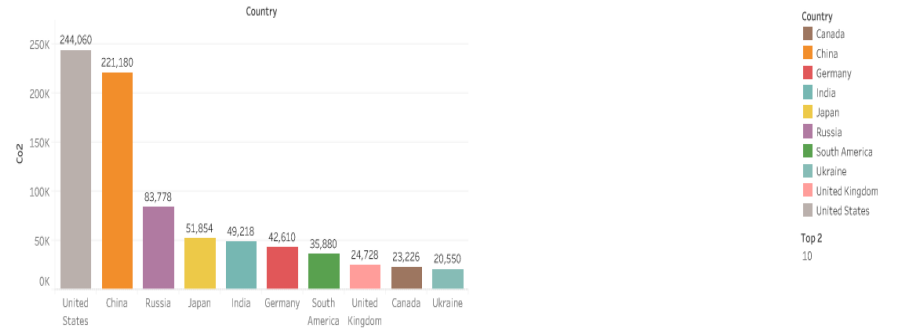
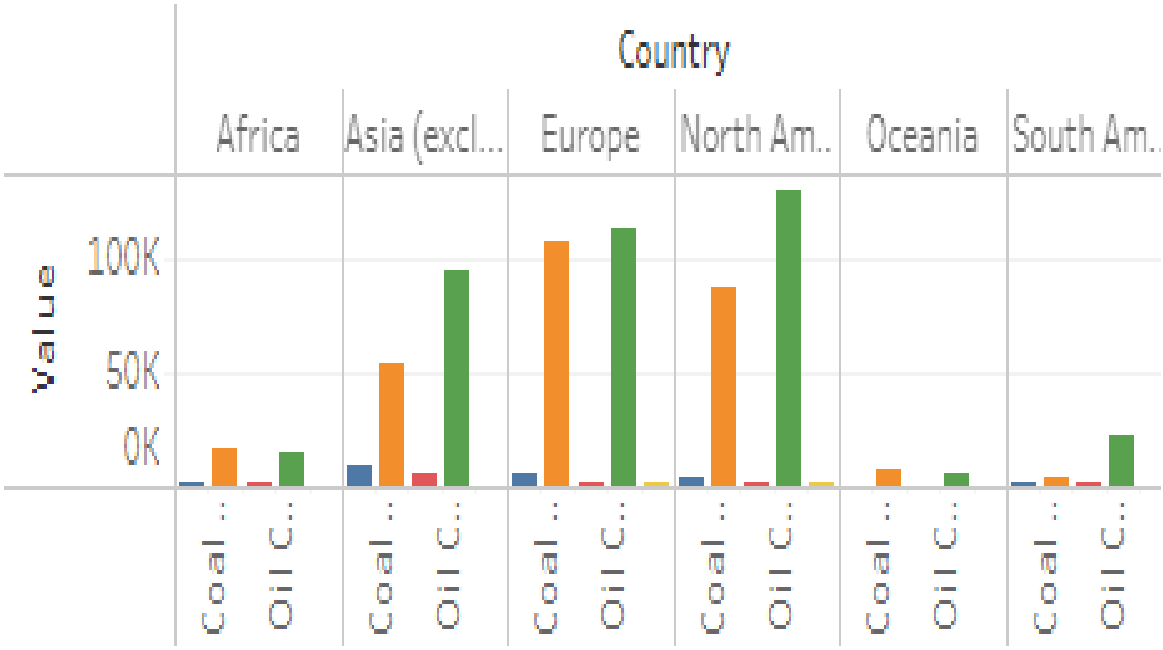
STORY

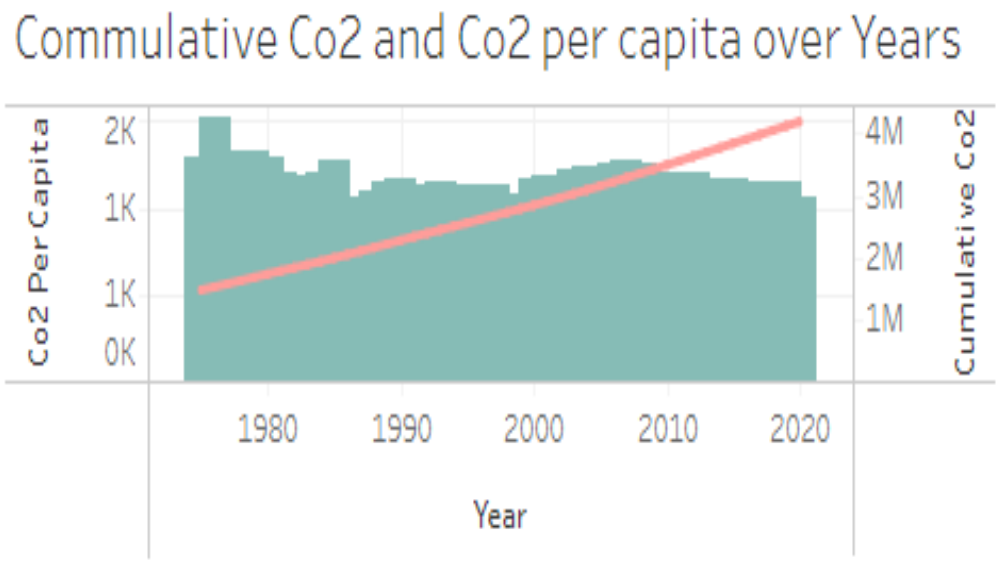
Story 1

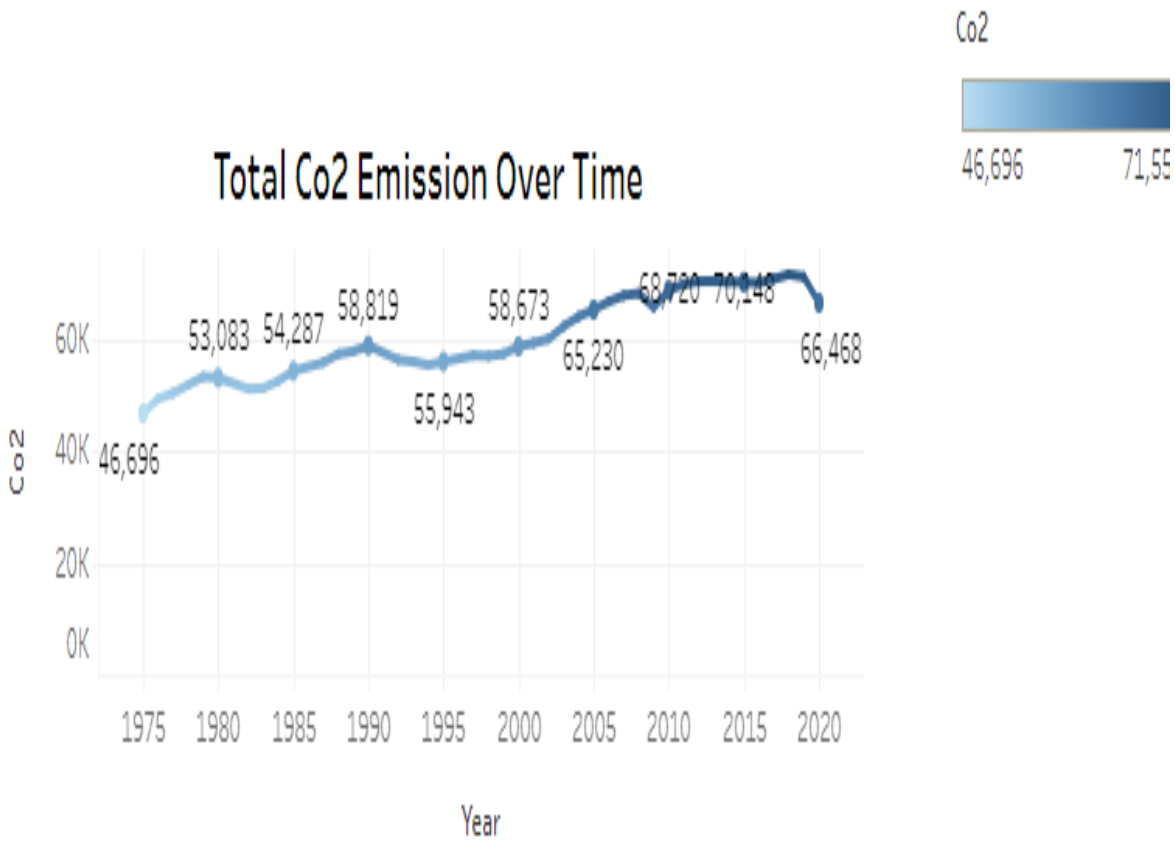
Countries Emitting Highest Co2	Total Co2 Emission From 1975 to 2020	Total Co2 Emission by Continents	Co2 Emission due to Internal Factors	Co2 Emission Dut to External Reasons	Continent Contribution due to coal co2 Emissi..	Continent Contribution due to Cement Co2 E..	Continent Contribution due to Gas Co2 Emissi..	Continent Contribution du..



Continent Wise Contribution By Internal Factors




Commulative Co2 and Co2 per capita over Years
Co2 Per Capita
2K
1K
1K
0K
4M
3M
2M
1M
Cumulative Co2
1980
1990
2000
2010
2020
Year


Co2
46,696
71,55
Total Co2 Emission Over Time
60K
40K
20K
0K
Co2
46,696
53,083
54,287
58,819
55,943
58,673
65,230
68,720
70,148
66,468
1975
1980
1985
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2005
2010
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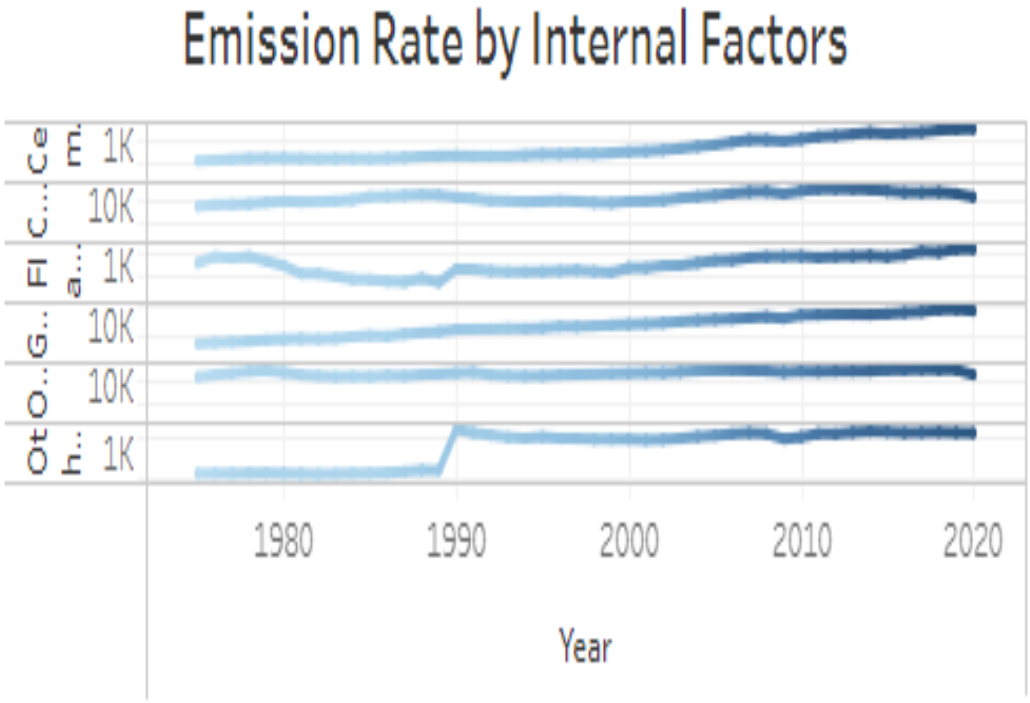
Year


Emission Rate by Internal Factors
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Year

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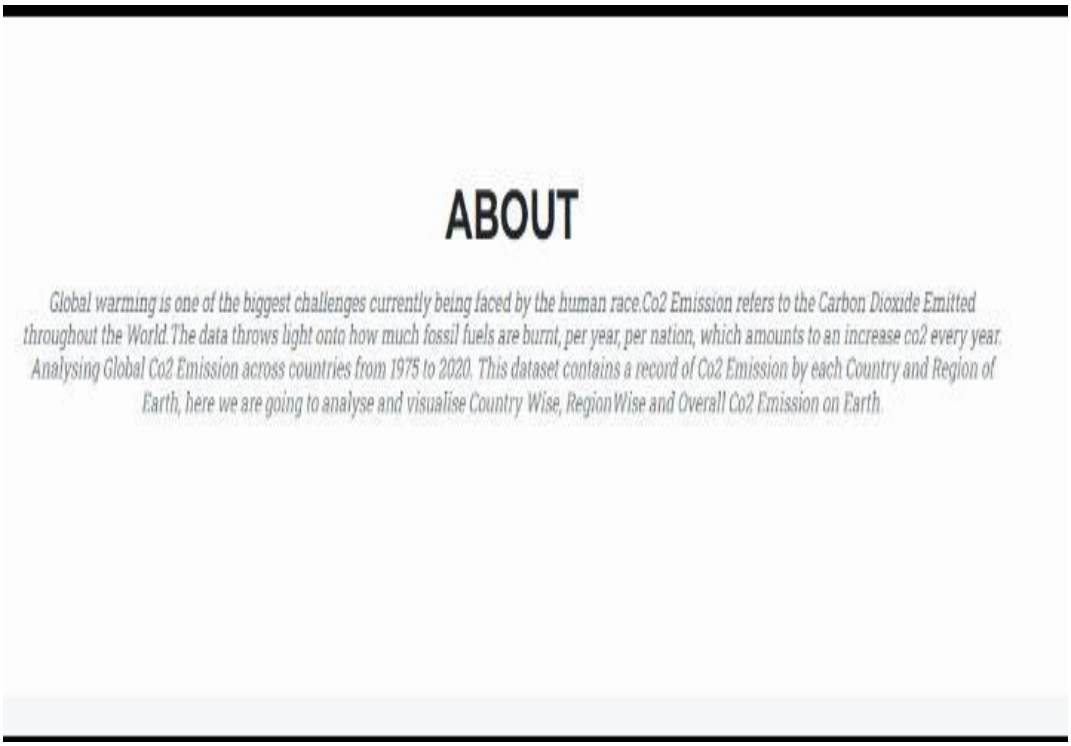
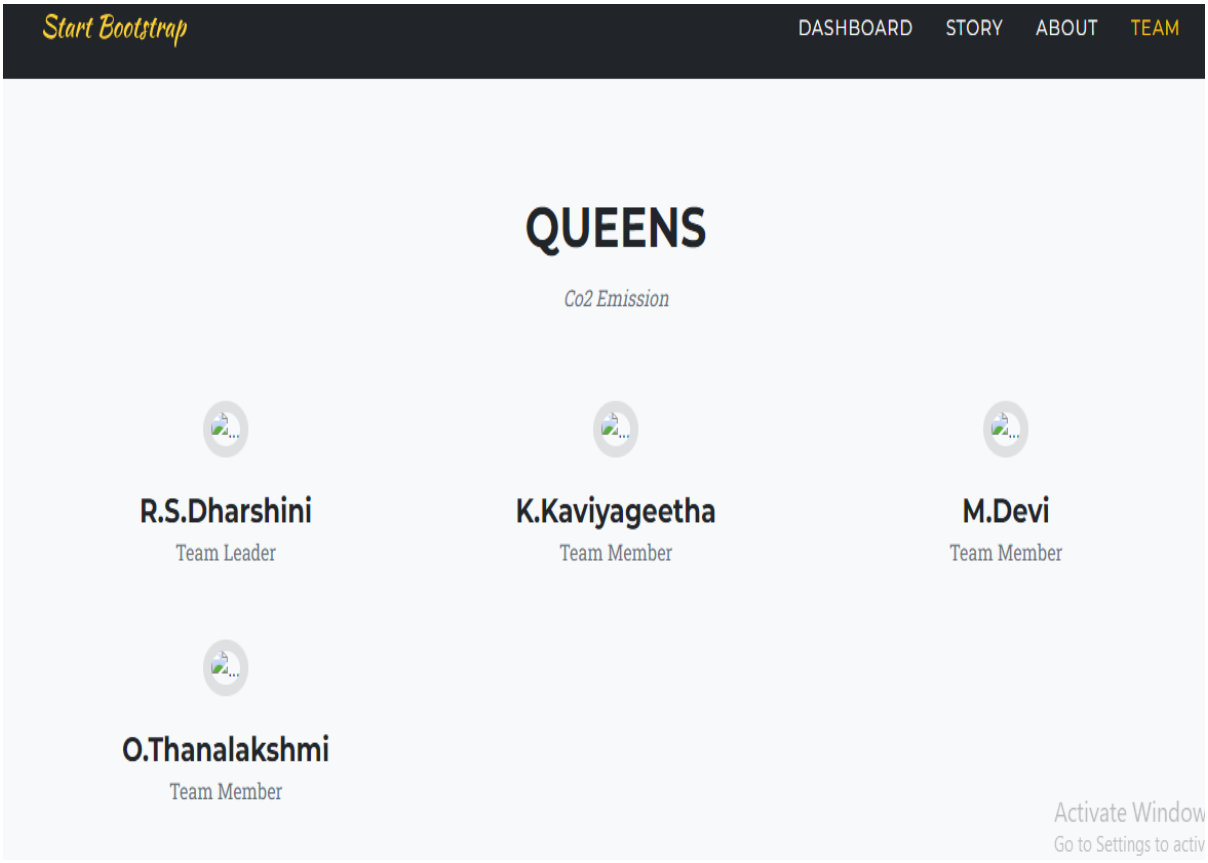
ABOUT


ABOUT
Global warming is one of the biggest challenges currently being faced by the human race.Co2 Emission refers to the Carbon Dioxide Emitted throughout the World.The data throws light onto how much fossil fuels are burnt, per year, per nation, which amounts to an increase co2 every year. Analysing Global Co2 Emission across countries from 1975 to 2020. This dataset contains a record of Co2 Emission by each Country and Region of Earth, here we are going to analyse and visualise Country Wise, RegionWise and Overall Co2 Emission on Earth

TEAM MEMBERS



4. ADVANTAGES & DISADVANTAGES:

ADVANTAGES:

- *Green plants grow faster with more CO2. Many also become more drought- resistant because higher CO2 levels allow plants to use water more efficiently. More abundant vegetation from increased CO2 is already apparent.*

- *Carbon dioxide is an important greenhouse gas that helps to trap heat in our atmosphere. Without it, our planet would be inhospitably cold. However, an increase in CO_2 concentrations in our atmosphere is causing average global temperatures to rise, disrupting other aspects of Earth's climate.*

- *Because air pollution and greenhouse gases are often released from the same sources, cutting greenhouse gas emissions in an effort to slow climate change also reduces air pollutants, such as fine particulate matter ($PM_{2.5}$). Reducing these co-emitted air pollutants improves air quality and benefits human health.*

- *CO2 plays various roles in the human body including regulation of blood pH, respiratory drive, and affinity of hemoglobin for oxygen (O2). Fluctuations in CO2 levels are highly regulated and can cause disturbances in the human body if normal levels are not maintained.*

- *Green plants grow faster with more CO2. Many also become more drought- resistant because higher CO2 levels allow plants to use water more efficiently. More abundant vegetation from increased CO2 is already apparent.*

Disadvantages:

- *CO2 emissions act like a blanket in the air, trapping heat in the atmosphere, and warming up the Earth [11]. This layer prevents the Earth from cooling, and thus raises global temperatures. Global warming would affect environmental conditions, food and water supplies, weather pattern, and sea levels.*

- *This change in concentrations causes warming and is affecting various aspects of climate, including surface air and ocean temperatures, precipitation, and sea levels. Human health, agriculture, water resources, forests, wildlife, and coastal areas are all vulnerable to climate change.*

- *Carbon emissions affect human life directly by causing more respiratory complications due to the increase in air pollution. Even worse, carbon emissions kill some animal species and destroy food, which highly affects humans.*

- *Abstract: Air pollutants are responsible for a number of adverse environmental effects, such as photochemical smog, acid rain, death of forests, or reduced atmospheric visibility. Emissions of greenhouse gases from*

combustion of fossil fuels are associated with the global warming of Earth's climate.

5.APPLICATIONS:

- *The production of CO_2-based fuels and chemicals is energy-intensive and requires large amounts of hydrogen. The carbon in CO_2 enables the conversion of hydrogen into a fuel that is easier to handle and use, for example as an aviation fuel. CO_2 can also replace fossil fuels as a raw material in chemicals and polymers.*

- *Carbon dioxide is Earth's most important greenhouse gas: a gas that absorbs and radiates heat. Unlike oxygen or nitrogen (which make up most of our atmosphere), greenhouse gases absorb heat radiating from the Earth's surface and re-release it in all directions—including back toward Earth's surface.*

- *Carbon dioxide in solid and in liquid form is used for refrigeration and cooling. It is used as an inert gas in chemical processes, in the storage of carbon powder and in fire extinguishers. Metals Industry: Carbon dioxide is used in the manufacture of casting molds to enhance their hardness.*

- *CO2 is also widely used in food and beverage production, the fabrication of metal, cooling, fire suppression and in greenhouses to stimulate plant growth.*

- *Carbon dioxide is used in oil wells for oil extraction and to maintain pressure within a formation.. When CO_2 is pumped into an oil well, it is partially dissolved into the oil, rendering it less viscous, allowing the oil to be extracted more easily from the bedrock. Considerably more oil can be extracted from through this process.*

6. CONCLUSION:

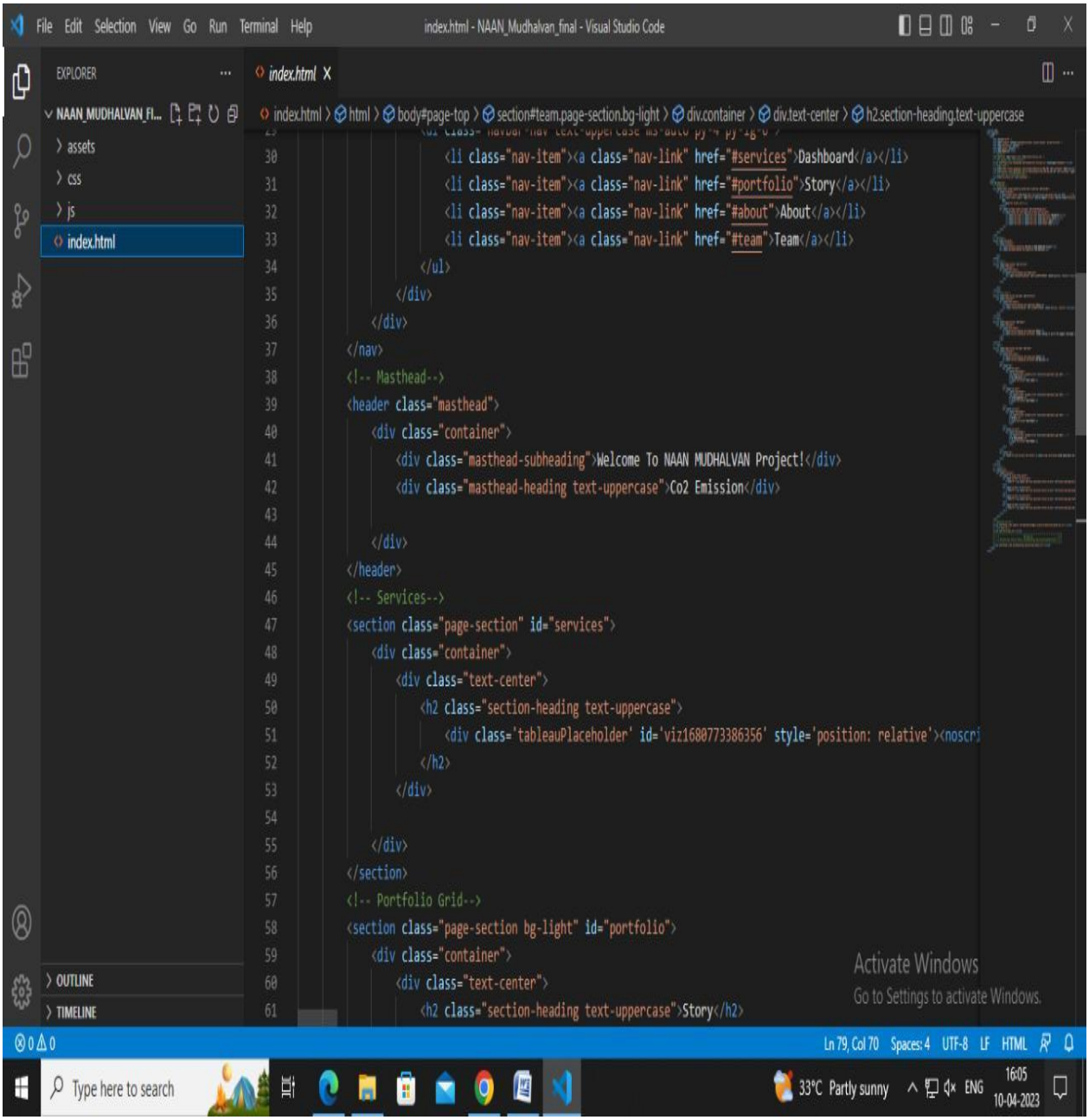
- *Here we analyze the Global Co2 Emission by empathy map, brainstorming, data preparation, data visualization, dashboard, story, advantages & disadvantages of Co2 Emission and Application of co2 Emissions.*

7. FUTURE SCOPE:

- *CO2 can also replace fossil fuels as a raw material in chemicals and polymers. Less energy-intensive pathways include reacting CO2 with minerals or waste streams, such as iron slag, to form carbonates for building materials. The future market potential for CO2-derived products and services is difficult to assess.*
- *In the Annual Energy Outlook 2022 (AEO2022) Reference case, which assumes no changes to current laws or regulations, the U.S. Energy Information Administration (EIA) projects that U.S. energy-related carbon dioxide (CO_2) emissions will fall to 4.5 billion metric tons in 2037, or 6% below the energy-related CO_2 ...*

- *Based on a business-as-usual trend, global carbon dioxide emissions are forecast to increase to some 43.08 billion metric tons in 2050, in comparison to 35.3 billion metric tons of carbon dioxide in 2018.*

8.APPENDIX: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index.html > html > body#page-top > section#team.page-section.bg-light > div.container > div.text-center > h2.section-heading.text-uppercase
<li class="nav-item">Dashboard
<li class="nav-item">Story
<li class="nav-item">About
<li class="nav-item">Team

</nav>
<!-- Masthead-->
<header class="masthead">

Welcome To NAAN MUDHALVAN Project!
Co2 Emission

</header>
<!-- Services-->
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<!-- Portfolio Grid-->
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<h2 class="section-heading text-uppercase">Story</h2>
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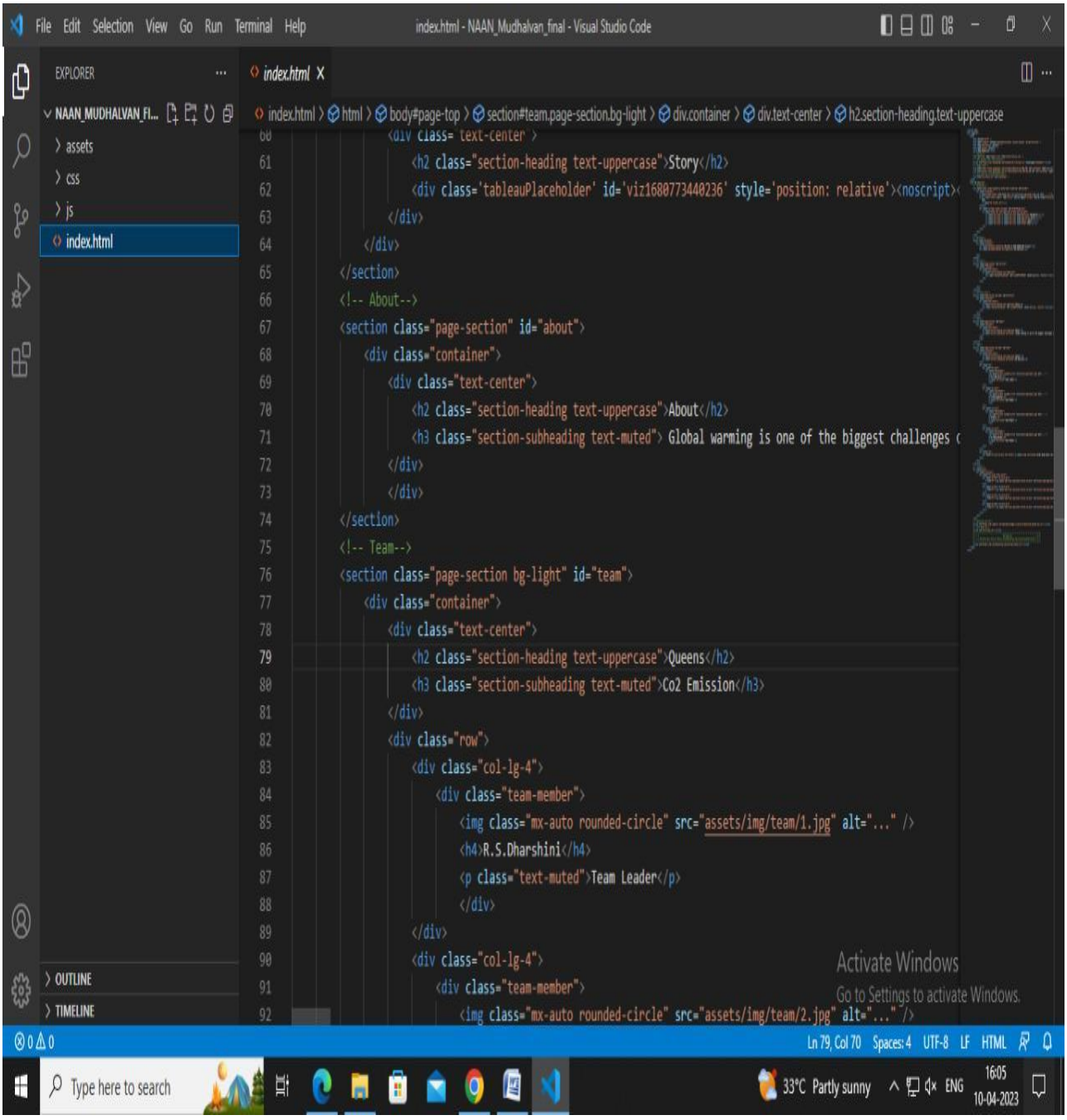
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<h2 class="section-heading text-uppercase">Story</h2>
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</section>
<!-- About-->
<section class="page-section" id="about">

<h2 class="section-heading text-uppercase">About</h2>
<h3 class="section-subheading text-muted"> Global warming is one of the biggest challenges

</section>
<!-- Team-->
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<h2 class="section-heading text-uppercase">Queens</h2>
<h3 class="section-subheading text-muted">Co2 Emission</h3>

<h4>R.S.Dharshini</h4>
Team Leader

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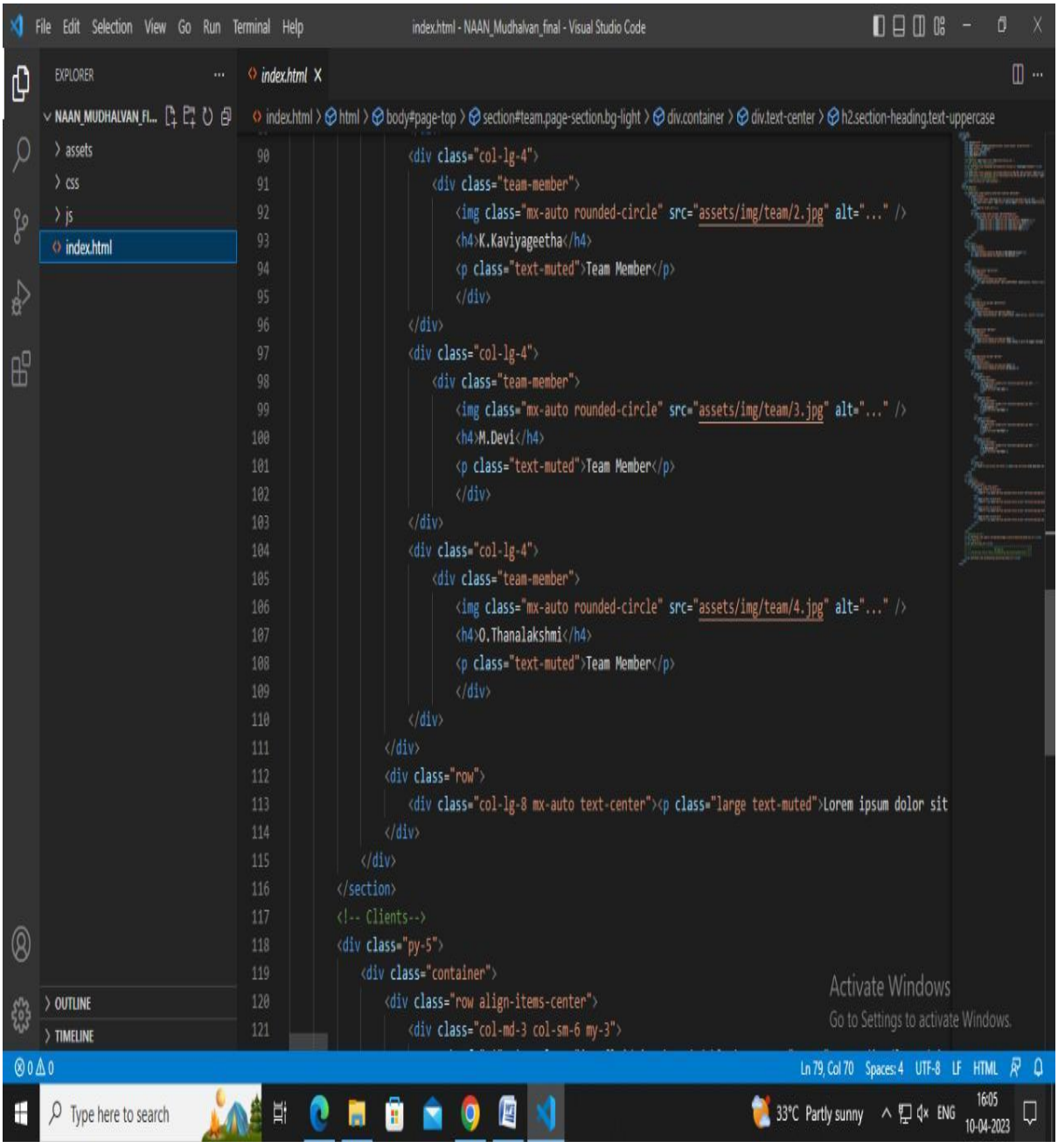
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<h4>K.Kaviyageetha</h4>
Team Member

<h4>M.Devi</h4>
Team Member

<h4>O.Thanalakshmi</h4>
Team Member

Lorem ipsum dolor sit

</section>
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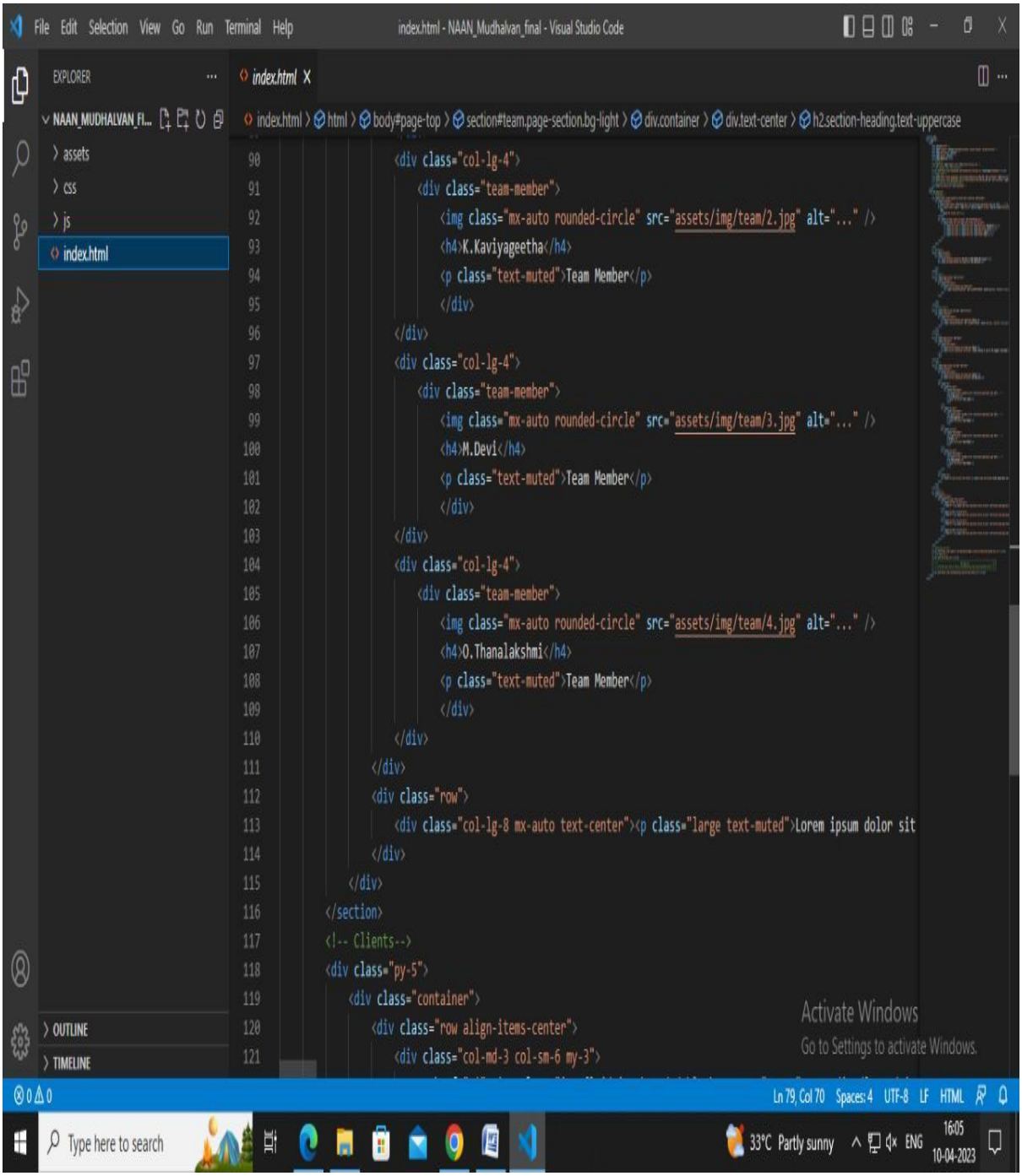
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<h4>K.Kaviyageetha</h4>
Team Member

<h4>M.Devi</h4>
Team Member

<h4>O.Thanalakshmi</h4>
Team Member

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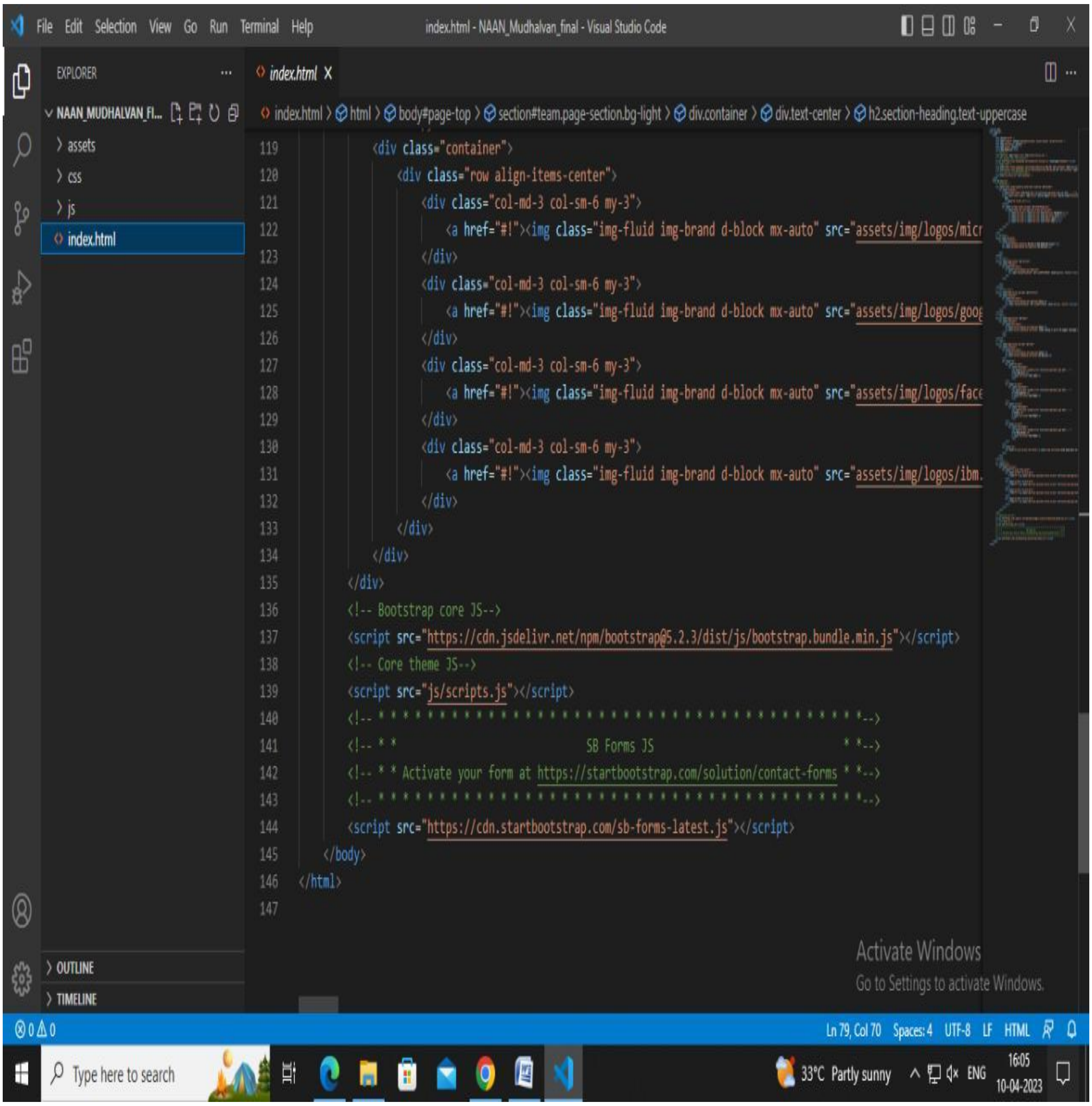
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<script src="js/scripts.js"></script>
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THANK YOU..!