Third Year B. Tech., Sem V 2021-22

Programming Lab-3

Practical no- 5B

Git-hub link: https://github.com/omkarpatil01/2019BTECS00104_PL3

Problem Statement 1: Design and develop a static web page using HTML for a Data Science blog. Access it locally and in LAN using a web server. It should have following sections:

1. Header – Title and authorship information of a blog

2. Three links to other technical blogs

3. Article – At least two articles should be there

4. Contact Information of author

```
<!DOCTYPE html>
<html lang="en">
    <head>
        <meta charset="UTF-8">
        <meta http-equiv="X-UA-Compatible" content="IE=edge">
        <meta name="viewport" content="width=device-width, initial-scale=1.0">
        <title>Data Science</title>
    </head>
    <body style="background-color: bisque;">
        <header>
            <H1 style="text-align: center;font-family: 'Times New Roman',
Times, serif;">DATA SCIENCE BLOG<br>by Thinkful</H1>
            <ul>
                <li>
                    <a href="https://www.thinkful.com/">HOME</a>
                </li>
                <li>
                    <a href="https://www.thinkful.com/about/">ABOUT</a>
                </li>
                <li>
                    <a
href="https://www.thinkful.com/?call=true#mentorship">CONTACT US</a>
                </li>
            </ul>
```

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        </header>
        <main>
            <article>
                <section>
                    <h2 style="text-align: center;">The Data Science</h2>
                    <p style="text-align: center;"> <img src="blue-colored-
data-science-illustration.jpg" alt="img" width="550vw"></p>
                </section>
                <h1 style="text-align: center;">What is Data Science?</h1>
                <section>
                    <p>
                        Data science, in its most basic terms, can be defined
as obtaining insights and information, really anything of value, out of data.
Like any new field, it's often tempting but counterproductive to try to put
concrete bounds on its definition. This is data science. This is not. In
reality, data science is evolving so fast and has already shown such enormous
range of possibility that a wider definition is essential to understanding it
and while it's hard to pin down a specific definition, it's quite easy to see
and feel its impact. Data science, when applied to different fields can lead
to incredible new insights and the folks that are using it are already reaping
the benefits…
                        In simple terms – Data Science is some sort of science
to analyze, process and convert large chunks of data into information so that
it can be used to predict the next thing you would want to buy. Also useful
for education, healthcare, fashion, you name it.
                    </p>
            </article>
        </section>
            <h1 style="text-align: center;">It’s hard to imagine a world
before data.</h1>
            <section>
                It has become ubiquitous, even more so for people who work in
tech. We've gone so far as to personify data in everyday conversation. We ask
what it means, what it says. But do we even know what it is? What makes
something count as data? Is a handwritten ledger from the year 1500 considered
data? Is a book sitting on a store shelf data? Are we all just data? In the
context of data science, the only form of data that matters is digital data.
Digital data is information that is not easily interpreted by an individual
but instead relies on machines to interpret, process, and alter it. The words
you are reading on your computer screen are an example of this. These digital
letters are actually a systematic collection of ones and zeros that encodes to
pixels in various hues and at a specific density. In recent years, digital
information has gotten so pervasive and essential that we've almost become
unwilling to handle anything that isn't in a digital form.
                Go ask a data scientist to work on something that isn't
digitized. Hand them a table scrawled on a wrinkly piece of paper. Or, to
better replicate the scale of what we're going to talk about, entire libraries
of thick books, overflowing with tables of information. Stack them on their
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desk (if you can) and they'd probably run away and never come back. It is
because the digital elements of information have become essential. We cannot
do modern work without them.

            </section>
            <section>
                <h1 style="text-align: center;">It's hard to find another
moment in human history where there was an innovation that made all previous
stored information invalid.</h1>
                <p>
                    If you really want a sense of how big this moment is in
the context of what we're here to talk about, data science, just open any
newspaper over the past 10 years. Inside, you will find countless stories of
individuals, companies, and in some cases countries racing to digitize any and
all information. From books to health records to government services, it's
becoming increasingly challenging to find corners of society not impacted by
the digital revolution.
                    <br>
                    <br>
                    It's incredible to think that while it may seem
hyperbolic, it's hard to find another moment in human history where there was
an innovation that made all previous stored information invalid. Even after
the introduction of the printing press, handwritten works were still just as
valid as a resource. But now, literally every piece of information that we
want to endure has to be translated into a new form.
                    <br>
                    <br>
                    Of course, the digitization of data isn't the whole story.
It was simply the first chapter in the origins of data science. To get to the
point where the digital world would become intertwined with almost every
person's life, data had to grow. It had to get big. Welcome to Big Data.
                    <br>
                    <br>
                    The short answer to what you can do with the billions upon
billions upon of data points being collected is the same as the answer to the
first question we asked: <b>Data science.</b>
                </p>
            </section>
        </article>
            <section>
               <p>
                Whether you work in medicine, media, finance, or
manufacturing, data science will likely play a big role moving forward. Just
think about it:
                <br>
                <br>
                Every field has big questions.
                <br>
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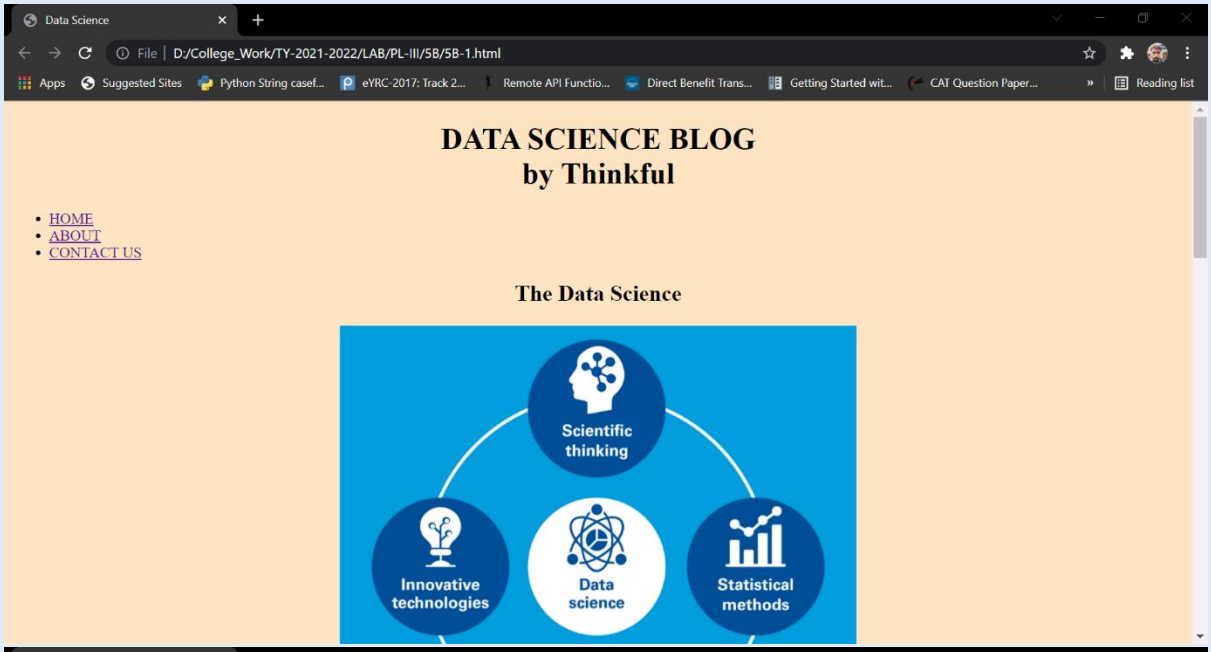
                <br>
                Every field has big sets of data.
                <br>
                <br>
                So every field needs data scientists!
                <br>
                <br>
                If you feel excited about data science, now is a perfect time
to start exploring. Stats suggest that data science skills are in high demand
and making the career transition can happen in as little as 6 months. Granted
those will probably be the 6 toughest months of your life, but in the end, and
trust us on this one, it will be worth it. Data scientists are some of
America’s best paid and happiest workers. To quote famous data scientist Dr.
Kirk Borne:
                <br>
                <br>
                <i>As a successful data scientist, your day can begin and end
with you counting your blessings that you are living your dream by solving
real-world problems with data.</i>
                <br>
                <br>
                Is now the time for you to live your dream too?
                <br>
                <br>
                Learn more about how you can become a data scientist by
exploring Thinkful's <a href="https://www.thinkful.com/bootcamp/data-
science/">data science bootcamp</a>.
              </p>
            </section>

            <div>
                <pre>


<hr>
<strong>About Thinkful</strong>
We’re an online education platform with career support to get our students new
jobs and life long careers.
Founded in 2012, we’re a 100% remote company with over 600 employees dedicated
to our students’ learning journey.

<strong>Connect</strong>
<nav>
    <a href="https://twitter.com/thinkful">Twitter</a>
    <a href="https://www.facebook.com/thinkful/">Facebook</a>
    <a href="https://www.instagram.com/thinkfulhq/">Instagram</a>
    <a href="https://www.thinkful.com/blog/">Thinkful Blog</a>
</nav>
```

```
                </pre>
            </div>
        </main>
        <footer>
            <p>
                &copy; 2021 Thinkful.
            </p>
        </footer>
    </body>
</html>
```



Problem Statement 2: Design and develop a static web page using HTML for following requirements. Access it locally and in LAN using a web server. It should have following sections:

1. Problem Statement: Write a code in any programming language that can find an armstrong number from a given range.

2. Code

3. Sample Input

4. Sample Output

5. Variables used in the program

6. Complexity

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Armstrong Number</title>
</head>
<body style="background-color: rgb(13, 191, 235);">
    <header>
        <section>
            <p>
                <h2>
                    Code to find Armstrong number in the given range
                </h2>
            </p>
            <p>
                <b>Armstrong Number:</b> It is a number that is equal to the
sum of the cubes of its digits.
                <br>
                For example 153.
                <br>
                Sum of the cubes of its digit = 1<sup>3</sup> + 5<sup>3</sup>
+ 3<sup>3</sup> = 1 + 125 + 27 = 153
            </p>
        </section>
    </header>

    <main>
        <p><b style="font-size: larger;">Sample code</b></p>
        <pre>
            <code>
                #include <iostream>
                #include <math.h>
                using namespace std;

                int main()
                {
                    int r, sum, temp, ans;
                    int x1, x2;
                    cout << "\n\n Find the Armstrong number for a given range
of number:\n";
                    cout << " Input starting number of range: ";
                    cin >> x1;
                    cout << " Input ending number of range: ";
                    cin >> x2;
                    cout << " Armstrong numbers in given range are: " << endl;
                    for (int i = x1; i <= x2; i++)
                    {
                        temp = i;
                        sum = 0;
```

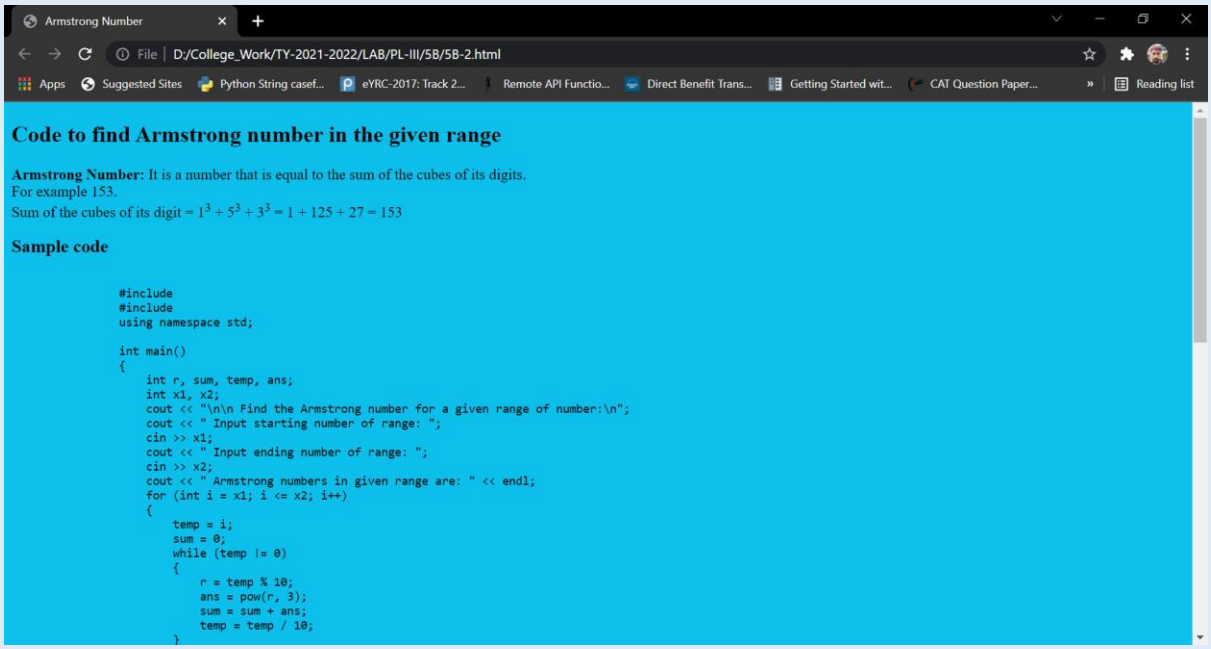
```
                        while (temp != 0)
                        {
                            r = temp % 10;
                            ans = pow(r, 3);
                            sum = sum + ans;
                            temp = temp / 10;
                        }
                        if (sum == i)
                            cout << i << " ";
                    }
                    cout << endl;
                }
            </code>
            <em>
                <p><b>Sample Input:</b></p>
                    Find the Armstrong number for a given range of
number:
                    Input starting number of range:
25
                    Input ending number of range: 200
                <p><b>Sample output</b></p>
                    Armstrong numbers in given range
are:
                    153
            </em>
        </pre>

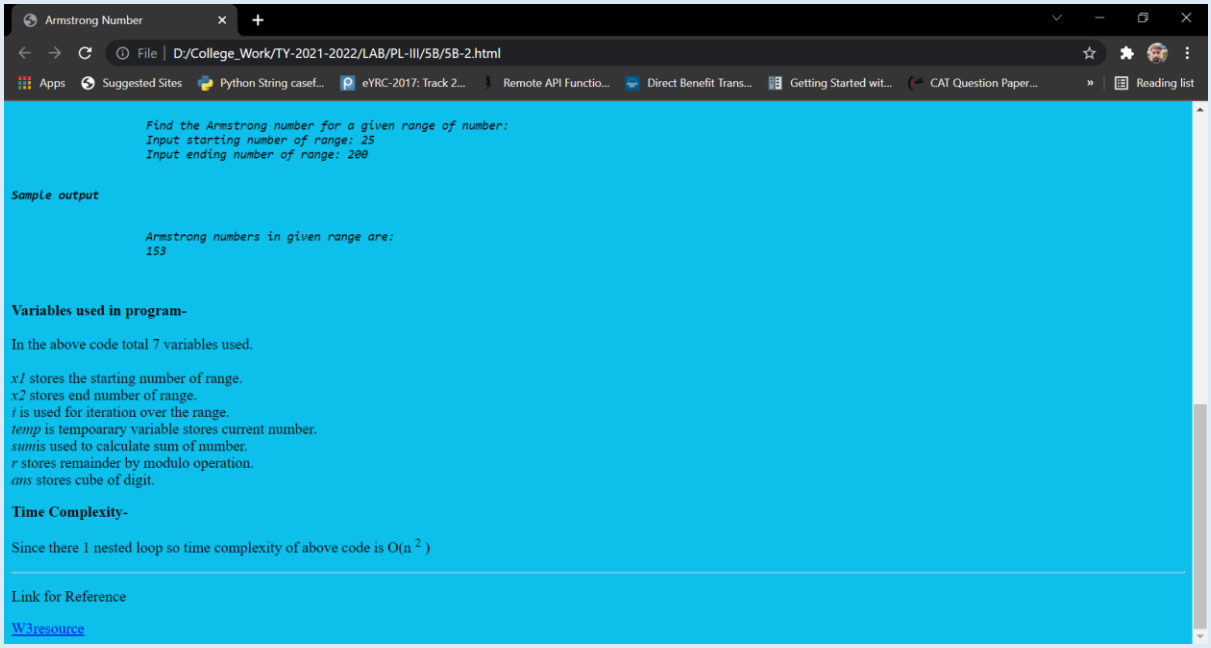
    <section>
        <p>
            <b>Variables used in program-</b>
            <br>
            <br>
            In the above code total 7 variables used.
            <br>
            <br>
            <var>x1</var> stores the starting number of range.
            <br>
            <var>x2</var> stores end number of range.
            <br>
            <var>i</var> is used for iteration over the range.
            <br>
            <var>temp</var> is tempoarary variable stores current number.
            <br>
            <var>sum</var>is used to calculate sum of number.
            <br>
            <var>r</var> stores remainder by modulo operation.
            <br>
            <var>ans</var> stores cube of digit.
```

```
        </p>
        <p><B>Time Complexity-</B></p>
        <p>Since there  1 nested loop so time complexity of above code is O(n
<sup>2</sup> )</p>
    </section>
    <hr>
    <p> Link for Reference</p>
    <nav>
        <a href="https://www.w3resource.com/cpp-exercises/numbers/cpp-numbers-
exercise-44.php">W3resource</a>
    </nav>

    </main>

</body>
</html>
```





Problem Statement 3: Design and develop a static web page using HTML for following requirements. Access it locally and in LAN using a web server. It should have following sections:

1. Any three quotes from https://www.brainyquote.com/ with the name of the person who quoted it.

```
<!DOCTYPE html>
<html lang="en">
    <head>
        <title>Brainy Quote</title>
    </head>
    <body style="background-color: rgb(17, 252, 240);">
        <header>
            <h1>
                <q>Motivational Quotes</q>
            </h1>
        </header>
        <article>
            <br>
            <section>
                <br>
                <blockquote>
                    Life is 10% what happens to you and 90% how you react to
it.<br><br>
                    <em>-Charles R. Swindoll</em>
                </blockquote>
                <br>
```

```
            </section>
            <hr>
            <br>
            <section>
                <br>
                <blockquote>
                    Excellence is not a skill, it's an attitude.<br><br>
                    <em>-Ralph Marston</em>
                </blockquote>
                <br>
            </section>
            <hr>
            <br>
            <section>
                <br>
                <blockquote>
                    Quality is not an act, it is a habit.<br><br>
                    <em>-Aristotle</em>
                </blockquote>
                <br>
            </section>
        </article>
        <hr>
        <br>
        <footer>
            <h2>
                <a href="https://www.brainyquote.com/">Brainy Quote</a>
            </h2>
        </footer>
    </body>
</html>
```