Module Name

University of City

Department of Randomness

Project Title
Subtitle

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Symbol	Definition	Unit
V	Velocity	[m/s]
ρ	Density	[kg/m^3]
Re	Reynolds Number	
u	velocity	[m/s]
L^*	Characteristic Length	[m]
μ	Dynamic Viscosity	[Pa/s]
Pr	Prandtl Number	
Cp	Specific Heat Capacity	[J/kg K]
k	Thermal Conductivity	[W/m k]
Nu	Nusselt number	
h	Heat transfer coefficient	[W/m k]
μ_o	Dynamic viscosity of bulk fluid	[Pa/s]
μ_b	Dynamic viscosity at the wall	[Pa/s]
L	Length of heating section	[m]
E_c	Energy of the cold stream	[j]
E_h	Energy of the hot stream	[j]
η	Energy efficiency	[%]
U_o	Overall heat transfer coefficient	[W/m k]
h_i	Internal heat transfer coefficient	[W/m k]
h_o	External heat transfer coefficient	[W/m k]
k_w	External heat transfer coefficient	[W/m k]
t_c	Temperature of the cold	[°C]
t_h	Temperature of the hot	[°C]
D	Diameter	[m]
A	Area	[m^2]
Q	Heat transferred	[j]
F	Friction factor	[-]
g	Gravity	[m s^{-}2]

Table 1: Nomenclature Table

1 Introduction

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$$E = m * c^2 \tag{1}$$

1.1 Aims and Objectives

- ,dkjmjs

- hiqjdkeco

- knma

A binary number is a number expressed in the base-2 numeral system or binary numeral system, a method of mathematical expression which uses only two symbols: typically "0" and "1". The base-2 numeral system is a positional notation with a radix of 2. Each digit is referred to as a bit, or binary digit.

Table 2: Binary Table

0	1	0	1	0
1	0	1	0	1
0	1	0	1	0
1	0	1	0	1

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commodo pretium, ultricies non, pharetra in, velit. Integer arcu est, nonummy in, fermentum faucibus, egestas vel, odio.

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2   Guess What

Figure 1: You Looked

We're no strangers to love You know the rules and so do I (do I), A full commitment's what I'm thinking of You wouldn't get this from any other guy I just wanna tell you how I'm feeling Gotta make you understand Never gonna give you up Never gonna let you down Never gonna run around and desert you Never gonna make you cry Never gonna say goodbye Never gonna tell a lie and hurt you We've known each other for so long Your heart's been aching, but you're too shy to say it (say it) Inside, we both know what's been going on (going on) We know the game and we're gonna play it And if you ask me how I'm feeling Don't tell me you're too blind to see Never gonna give you up Never gonna let you down Never gonna run around and desert you Never gonna make you cry Never gonna say goodbye Never gonna tell a lie and hurt you Never gonna give you up Never gonna let you down Never gonna run around and desert you Never gonna make you cry Never gonna say goodbye Never gonna tell a lie and hurt you We've known each other for so long Your heart's been aching, but you're too shy to say it (to say it) Inside, we both know what's been going on (going on) We know the game and we're gonna play it I just wanna tell you how I'm feeling Gotta make you understand Never gonna give you up Never gonna let you down Never gonna run around and desert you Never gonna make you cry Never gonna say goodbye Never gonna tell a lie and hurt you Never gonna give you up Never gonna let you down Never gonna run around and desert you Never gonna make you cry Never gonna say goodbye Never gonna tell a lie and hurt you Never gonna give you up Never gonna let you down Never gonna run around and desert you Never gonna make you cry Never gonna say goodbye Never gonna tell a lie and hurt you [1]
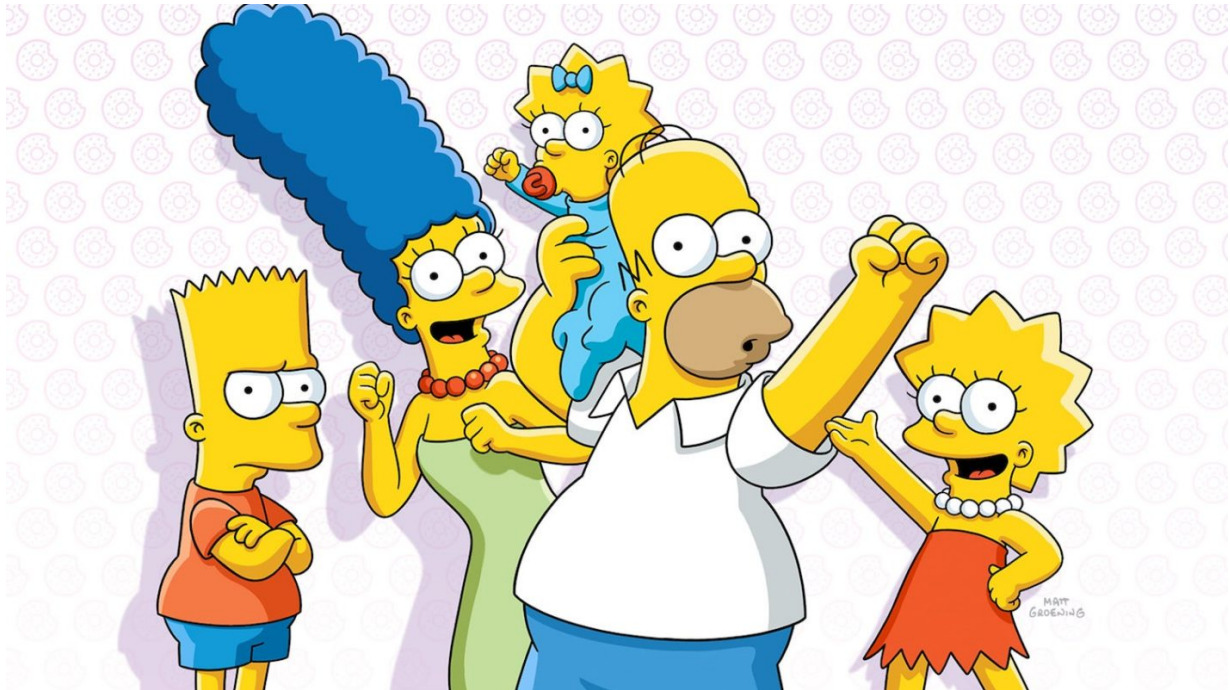
3   The Simpsons

The TV Show

Figure 2: Simpsons

The Simpsons is an American animated sitcom created by Matt Groening for the Fox Broadcasting Company The series is a satirical depiction of American life, epitomized by the Simpson family, which consists of Homer, Marge, Bart, Lisa, and Maggie. The show is set in the fictional town of Springfield and parodies American culture and society, television, and the human condition.

The family was conceived by Groening shortly before a solicitation for a series of animated shorts with producer James L. Brooks. He created a dysfunctional family and named the characters after his own family members, substituting Bart for his own name; he thought Simpson was a funny name in that it sounded similar to "simpleton". The shorts became a part of The Tracey Ullman Show on April 19, 1987. After three seasons, the sketch was developed into a half-hour prime time show and became Fox's first series to land in the Top 30 ratings in a season (1989–1990).

Since its debut on December 17, 1989, 728 episodes of the show have been broadcast. It is the longest-running American animated series, longest-running American sitcom, and the longest running American scripted prime time television series, both in terms of seasons and number of episodes. A feature-length film, The Simpsons Movie, was released in theaters worldwide on July 27, 2007, and grossed over $527 million, with a sequel in development as of 2018. The series has also spawned numerous comic book series, video games, books, and other related media, as well as a billion-dollar merchandising industry. The Simpsons is a joint production by Gracie Films and 20th Television. On March 3, 2021, the series was announced to have been renewed for seasons 33 and 34, which were later confirmed to have 22 episodes each, increasing the episode count from 706 to 750. Its thirty-third season premiered on September 26, 2021.

The Simpsons received acclaim throughout its early seasons in the 1990s, which are generally considered its "golden age". Since then, it has been criticized for a perceived decline in quality. Time named it the 20th century's best television series, and Erik Adams of The A.V. Club named it "television's crowning achievement regardless of format". On January 14, 2000, the Simpson family was awarded a star on the Hollywood Walk of Fame. It has won dozens of awards since it debuted as a series, including 34 Primetime Emmy Awards, 34 Annie Awards, and 2 Peabody Awards. Homer's exclamatory catchphrase of "D'oh!" has been adopted into the English language, while The Simpsons has influenced many other later adult-oriented animated sitcom television series. [2]

4   References

[1]   Rick Astley et al. "Never Gonna Give You Up: Toward a Never Gonna Let You Down". In: ().

[2]   William Irwin, Mark T Conard, and Aeon J Skoble. The Simpsons and philosophy: The d'oh! of Homer. ReadHowYouWant. com, 2010.

5   Appendix

5.1   Appendix A

Item List:

- Item 1

- Item 2

- Item 3

- Item 4

- Item 5

5.2   Appendix B

```
%% Using MATLAB with Serial Devices (such as RS-232)
% MATLAB supports communication with serial devices including RS-232 when
% using the Instrument Control Toolbox. There are many devices with serial
% interfaces, including gas chronometers, mass spectrometers,
% imaging devices, pulse oximeters, and instruments.
%
% The toolbox provides a graphical tool that allows you to configure,
% control, and acquire data from your serial device without writing code.
% The tool automatically generates MATLAB code that allows you to reuse
% your work. The code example below was automatically generated by the
% tool.  Type "tmtool" at the MATLAB command line to launch this tool.
%
% This code example below shows you how you can communicate with your
% serial device using MATLAB. The "*IDN?" command was used which is a
% typical command for communicating with an instrument. The commands you
% can use will depend on what your serial device supports.
%% Automatically generating a report in MATLAB
% Press the "Save and Publish to HTML" button in the MATLAB Editor to
% execute this code example and automatically generate a report of your
% work with the serial device.
%% Automatically generating MATLAB script for your RS-232 device
% To automatically create your own MATLAB script, launch "tmtool". Open the
% "Hardware" node, open the "Serial" node, select your serial port (such
% as COM1, press the "connect" button. Once connected, enter your device
% commands in the right pane, press "Session log" to see the code generated,
% and press "Save Session" to save the code to a MATLAB (.m) file.
%% MATLAB script automatically generated for the RS-232 device
% The following MATLAB script was automatically generated by interacting
% with the device configuration tool provided by the toolbox.
% Creation time: 03-Oct-2006 20:36:43
% Create a serial port object.
obj1 = instrfind('Type', 'serial', 'Port', 'COM3', 'Tag', '');
% Create the serial port object if it does not exist
% otherwise use the object that was found.
if isempty(obj1)
    obj1 = serial('COM3');
else
    fclose(obj1);
    obj1 = obj1(1)
end
```

```
% Connect to instrument object, obj1.
fopen(obj1);
% Communicating with instrument object, obj1.
data1 = query(obj1, '*IDN?');
% Disconnect from instrument object, obj1.
fclose(obj1);
% Clean up all objects.
delete(obj1);
```

5.3 Appendix C

```python
import unittest


class TestSum(unittest.TestCase):

    def test_sum(self):
        self.assertEqual(sum([1, 2, 3]), 6, "Should be 6")

    def test_sum_tuple(self):
        self.assertEqual(sum((1, 2, 2)), 6, "Should be 6")

if __name__ == '__main__':
    unittest.main()
```

```
$ python test_sum_unittest.py
.F
======================================================================
FAIL: test_sum_tuple (__main__.TestSum)
----------------------------------------------------------------------
Traceback (most recent call last):
  File "test_sum_unittest.py", line 9, in test_sum_tuple
    self.assertEqual(sum((1, 2, 2)), 6, "Should be 6")
AssertionError: Should be 6


----------------------------------------------------------------------
Ran 2 tests in 0.001s

FAILED (failures=1)

$ pip install nose2
$ python -m nose2
.F
======================================================================
FAIL: test_sum_tuple (__main__.TestSum)
----------------------------------------------------------------------
Traceback (most recent call last):
  File "test_sum_unittest.py", line 9, in test_sum_tuple
    self.assertEqual(sum((1, 2, 2)), 6, "Should be 6")
AssertionError: Should be 6


----------------------------------------------------------------------
Ran 2 tests in 0.001s

FAILED (failures=1)
```