**DAILY ASSESSMENT FORMAT**

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| **Date:** | **25th may 2020** | **Name:** | **Rashmitha** |
| **Course:** | **Digital signal processing** | **USN:** | **4AL17EC077** |
| **Topic:** | **Fourier series and fourier transform** | **Semester & Section:** | **6th sem ‘B’ sec** |
| **Github Repository:** | **Rashmitha** |  |  |

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| **FORENOON SESSION DETAILS** |
| **Image of session**  C:\Users\user\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Screenshot (141).png  C:\Users\user\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Screenshot (142).png    **Introduction to fourier series and fourier transform:**  **Fourier series:**  Fourier series is a periodic function composed of harmonically related sinusoids combined by a weighted summation. With appropriate weights one cycle of the summation can made to approximate an arbitrary function in that interval.     Basic Results. is called a Fourier series. Since this expression deals with convergence, we start by defining a similar expression when the sum is finite. , are called the coefficients of Fn(x)  **Fourier transform:**  a Fourier transform (FT) is a [mathematical transform](https://en.wikipedia.org/wiki/Integral_transform) which decomposes a [function](https://en.wikipedia.org/wiki/Function_(mathematics)) (often a [function of time,](https://en.wikipedia.org/wiki/Time-variant_system) or a [signal](https://en.wikipedia.org/wiki/Signal)) into its constituent [frequencies](https://en.wikipedia.org/wiki/Frequency), such as the expression of a musical [chord](https://en.wikipedia.org/wiki/Chord_(music)) in terms of the volumes and frequencies of its constituent notes. The term Fourier transform refers to both the [frequency domain](https://en.wikipedia.org/wiki/Frequency_domain) representation and the [mathematical operation](https://en.wikipedia.org/wiki/Operation_(mathematics)) that associates the frequency domain representation to a function of time.  **Complex fourier series:**  The complex Fourier series is presented first with period 2π, then with general period. The connection with the real-valued Fourier series is explained and formulae are given for converting between the two types of representation.  **Discrete Fourier transform:**    Discrete Fourier transform converts a finite sequence of equally-spaced samples of a function into a same-length sequence of equally-spaced samples of the discrete-time Fourier transform , which is a complex-valued function of frequency. The interval at which the DTFT is sampled is the reciprocal of the duration of the input sequence  **Applications**    Fourier analysis has many scientific applications – in physics, partial differential equations, number theory, combinatory, signal processing, digital image processing, probability theory, statistics, forensics, option pricing, cryptography, numerical analysis, acoustics, oceanography, sonar, optics, diffraction, geometry, protein structure analysis, and other areas. This wide applicability stems from many useful properties of the transforms: The transforms are linear operators and, with proper normalization, are unitary as well The transforms are usually invertible. The exponential functions are eigenfunctions of differentiation, which means that this representation transforms linear differential equations with constant coefficients into ordinary algebraic ones. Therefore, the behavior of a linear time-invariant system can be analyzed at each frequency independently.By the convolution theorem, Fourier transforms turn the complicated convolution operation into simple multiplication, which means that they provide an efficient way to compute convolution-based operations such as polynomial multiplication and multiplying large numbers. |
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| **Date:** | **25th may 2020** | **Name:** | **Rashmitha** |
| **Course:** | **Python** | **USN:** | **4AL17EC077** |
| **Topic:** | **Error correcting, web blocker using python** | **Semester & Section:** | **6th sem ‘B’ sec** |
| **Github Repository:** | **Rashmitha** |  |  |

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| **AFTERNOON SESSION DETAILS** |
| **Image of session**  C:\Users\user\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Screenshot (148).png    **Fixing programming errors**     * The correct way to fix a Python error one of the things that separates them from novices is that they know how to fix an error. * Not knowing how to fix an error will not only waste a lot of time, but even worse it can demotivate you to the point where you feel dump and give up learning how to program. * In this reading we will learn the secrets of finding and fixing a Python code error.   The Python code below is supposed to create a dictionary and print that dictionary out.  data = ("Name":"John", "Surname":"Smith") print(data) However, when executed, the code produces the following output:  File "script2.py", line 1  data = ("Name":"John", "Surname":"Smith")  ^  Syntax Error: invalid syntax   * In this case the error type is a Syntax Error. * That means you have written something that doesn’t follow the Python syntax rules. * So, now you have an idea of what error you are dealing with. For an overview of possible Python error types we can look here**.** * In this case it started to read the first line and it detected round brackets after the assignment operator. * That means you are creating a tuple. That’s fine. * But then after you write the first item you were supposed to write a comma to separate that item from the next item, but you used a colon instead, so the interpreter is saying that a colon is not syntactically correct to use with round brackets. * Therefore, you should make up your mind to either write a tuple like   data = ("Name", "John", "Surname", "Smith")  or a dictionary of key-value pairs like  data = {"Name":"John", "Surname":"Smith".   * The decision is up to you. In this case though I believe the programmer meant to write a dictionary, so I am going to replace the round brackets with curly brackets because I know a dictionary is defined through curly brackets.   **Website Blocker Using Python**    This is real world program which blocks certain distracting website like Facebook, Youtube etc. during your work hours.    **About the program** :  In this program is that we will pass the link of websites which you think is distracting and the time that you are working on your computer and program will block those website. Every system have host file whether it is Mac, Windows or Linux. Host file in Mac and Linux : /etc/hosts Host file in Windows:    **Working of host file**:  Host is an operating system file which maps hostnames to IP addresses. In this program we will be mapping hostnames of websites to our localhost address. Using python file handling manipulation we will write the hostname in hosts.txt and remove the lines after your working hours.  Host file in Mac:  import time  from datetime import datetime as dt  hosts\_path = "/etc/hosts"  # localhost's IP  redirect = "127.0.0.1"  # websites That you want to block  while True:  # time of your work  if dt(dt.now().year, dt.now().month, dt.now().day,8)  < dt.now() < dt(dt.now().year, dt.now().month, dt.now().day,16):  print("Working hours...")  with open(hosts\_path, 'r+') as file:  content = file.read()  for website in website\_list:  if website in content:  pass  else:  # mapping hostnames to your localhost IP address  file.write(redirect + " " + website + "\n")  else:  with open(hosts\_path, 'r+') as file:  content=file.readlines()  file.seek(0)  for line in content:  if not any(website in line for website in website\_list):  file.write(line)  # removing hostnmes from host file  file.truncate()  print("Fun hours...")  time.sleep(5) |
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