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LibreOffice 6.0

CLASS 8

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**Lesson Plan for
Teachers**

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For the teachers' reference:

Middle Liners: These students are good learners and listeners but need little guidance to enhance their problem-solving skills.

Front Liners: These inquisitive, curious and creative-minded students can enhance their capabilities to think 'out of the box' with the direction of teachers.

Below Liners: These students require support and special attention as their minds are clouded with distractions, doubts, fears and hesitation which suppress their potential to learn new skills or concepts.

Previous Knowledge: Refresh the knowledge of the students regarding the concept of computer network which is a collection of two or more computers connected with each other in order to share data and communicate with each other.

Learning Objective:

- Understanding the importance of computer communication and identifying the components that facilitate it.
- Understanding the role of computer network in sharing resources.
- Differentiating between the types of network: LAN, WAN, MAN and PAN.
- Identifying the devices used in a Network: computer, NIC, Connector, Cables, Resource.
- Identifying the media involved in physical or wireless transmission of data.
- Understanding the organization of computers through Network Architecture and its types: Peer-to-Peer Network and Client/Server Network.
- Analyzing layout structure of connected computers through network topology and its kinds: Bus, Star and Ring.
- Learning about different protocols and the operations they perform, such as HTTP, FTP, TCP/IP, POP3, IMAP, SMTP.

Resources: Smartboards can be used to display the images of different network hardware and transmission media that act as communication channels.

Vocabulary: network, node, cables, hub, technology, structure, switch, router, insulated, twisted, coaxial, Fiber-optic, infrared, broadcast, cellular, microwave, clients, server, linear, protocol, topology.

Planning: Familiarize yourself in advance with the different types of Network and how they differ from each other. Also make yourself familiar with different network topologies and how they work.

Teaching Sequence:

- Begin the chapter by having a discussion about the need of communication in computers and the components required to establish a successful computer communication: Sender, Communication Channel or Transmission Media, Receiver and Protocol.
- Introduce them with Computer Network and discuss the need for a network as well as the role played by network user, server and workstations.
- Help the students distinguish between the different types of Network: LAN (Local Area Network), WAN (Wide Area Network), MAN (Metropolitan Area Network) and PAN (Personal Area Network).
- Discuss about the physical devices required for a network to function: Computer, Network Interface Card (NIC), Connector, Cables, Resource.

- Identifying the role played by different physical transmission media (twisted-pair cable, coaxial cable, fiber-optic cable) and wireless transmission media (Infrared, Broadcast Radio, Cellular Radio, Wi-Fi, Microwave, Communication Satellite).
- Describe the two major types of Network Architecture: Peer-to-peer Network and Client/server Network.
- Discuss network topology and its types: bus, star and ring.
- Brief them about the different Protocols meant for different operations on the Internet, such as HTTP, FTP, TCP/IP, POP3, IMAP, SMTP.

Learning Outcome:

Middle Liners will understand the concept of Networking and how computers are getting connected with each other.

Below Liners will understand the concept of Network but will need help in differentiating between different types of Network.

Front Liners will understand Networking of computers and how computers get connected all over the world through the internet.

Activities:

Teacher cum Students Activity

Investigate the physical infrastructure of the school network. Tell the students to walk from their computer systems to the local Wi-Fi point, or to follow the network cable from the computer to the classroom switch. Next, walk together to the school's main network switch, firewall and router. If possible, walk down to the nearest BT green cabinet, and to your local telephone exchange, depending on how close this is to you.

Group Discussion

Discuss about the different types of network and the purpose they serve at different places.

Talk about

Difference between a Hub, Switch, and Router.

Online Links:

- <https://sites.google.com/site/pnutpck11/lesson-4---networking-technologies-overview>
- <https://cosmolearning.org/topics/computer-networks/>
- <http://www.certiology.com/quizzes/basic-computer-networking-quizzes.html>
- <https://www.youtube.com/watch?v=PuX4FitAH7Y>

Assessment: Assess the students by observing how well they are able to differentiate between different types of Networks.

Previous Knowledge: Briefly discuss the need of data organization in fields like medicine, banking, retailing and so on. Let students guess similar places where safe database is of greatest importance.

Learning objective:

- Understanding database as a collection of data organized in manner that allows easy access, retrieval, and use of that data.
- Understanding LibreOffice Base is a powerful open source database software and knowing its different components.
- Learning the steps to create and open a database in LibreOffice Base.
- To make the students proficient in Base to create a blank database and create a new table using design view.
- Familiarizing yourself with the various data types in LibreOffice Base.
- Practicing the steps to set a primary key, set field properties, save and close the table.
- Understanding the steps to add records to a table.

Resources: Computer systems with LibreOffice Base installed.

Vocabulary: database, relational, datasheet, Queries, field, template, backstage, browse, navigation, spreadsheet, multivalued, validation.

Planning: Make yourself ensure with the concept of database.

Teaching Sequence:

- Begin the chapter by Introducing students with database and its purpose.
- Tell them about the database software- LibreOffice Base and how it is helpful in creating, managing and processing data in the form of multiple tables.
- Make them familiar with its different components and their use. Demonstrate the steps to open Base window and create a database.
- Brief the students about the project they are going to create during practical sessions.
- Demonstrate the steps to create a blank database and create a new table using design view.
- While discussing design view, introduce them with the available data types in LibreOffice Base.
- Make them familiar with Primary key and its use. Also demonstrate how to set a particular field as a primary key.
- Make them understand what is meant by field properties.
- Demonstrate the process of setting field length properties while creating a table in LibreOffice Base.

- Instruct them to save and close the table.
- Now, demonstrate the process to add records to a table and ask the students to create the project as given in the Activity Section.

Learning Outcome:

Middle Liners will understand the concept of database and will be able to successfully create the given project.

Below Liners will understand database but may need support while setting field properties and setting a primary key.

Front Liners will create the table structure and will add records and complete their project in the given period of time.

Activities:**Teachers Activity**

Create a database project in LibreOffice Base for the students to emulate.

Students Activity

Students will complete the activities given in Activity session of the chapter in the textbook.

Group Discussion

Advantages of Database Management Systems over traditional file-based systems.

Talk about

Role of database system in different fields of professions.

Online Links:

- <https://www.youtube.com/watch?v=jWU0WdMJ2Kw&list=PLy7Kah3WzqrEerJ0VPNWVaR4CYHMr4wmV>
-

Assessment: Assess the students based on the database created by them.

Previous Knowledge: Students are already familiar with LibreOffice Base as open source Database management software. Quiz them on how well they retain the knowledge of creating a database table and adding records to the table.

Learning Objective:

- Familiarizing oneself with the basic working of a database table in order to select data, find and replace text, change table view, edit fields and sort records.
- Understanding how to filter data in a table: by selection or by standard filter, in order to display only desired records.
- Learn steps to change table views and editing fields of a table.
- Learning how to create/delete Relationships between tables through Relationships window.
- Understanding how to create forms using wizard.

Resources: Computer systems with LibreOffice Base installed.

Vocabulary: highlighted, Ascending, Descending, Filtering, Query.

Planning: Ensure that all the computers with LibreOffice Base are open and ready.

Teaching Sequence:

- Quickly recapitulate the steps to open LibreOffice Base to students, now create and add records to a table.
- Demonstrate the basic working with tables by selecting data in a table, using Find & Replace option, changing Table View, editing Fields and sorting records.
- Make them introduce the use of the Filter option and demonstrate the process to Filter data in various ways: by selection or by standard filter.
- Make students understand what is a Relational database.
- Demonstrate the steps to create or delete a relationship between tables.
- Demonstrate the process of creating Forms using form wizard.

Learning Outcome:

Middle Liners will be able to create a Form for the table they created in previous lab activity.

Below Liners will be able to create a table but may need support while using the Filter option and creating Forms.

Front Liners will be able to work on their table and create Forms. They will be able to use a shortcut menu for making quick changes and will be able to complete their task efficiently.

Activities:

Teacher activity

Teachers can show examples of different types of Forms.

Students activity

Students will complete the activity given in the Activity section of the textbook.

Group discussion

Compare and contrast Base and Calc.

Talk about

LibreOffice Base common data types.

Online links:

- <https://www.youtube.com/watch?v=l45YJdW9GI0&list=PLy7Kah3WzqrEerJOVPNWVaR4CYHMr4wmV&index=2ks>
 - <https://www.youtube.com/watch?v=GxINtJp0Ilg0&list=PLy7Kah3WzqrEerJOVPNWVaR4CYHMr4wmV&index=6>
-

Assessment: Assess the students on the basis of activity completed.

Previous Knowledge: Students are already familiar with working with Tables, creating a Relationship between tables and creating Forms in LibreOffice Base.

Learning objective:

- Understanding Query and its different types: simple, unmatched and duplicate.
- Learning the steps for Creating, Running and Saving a query.
- Understanding criteria used in query i.e. using text data and comparison operator.
- Learning the steps undertaken to Sort and Delete a field in a query.
- Understanding how to create a Report- using Report Wizard.

Resources: Computer systems with LibreOffice Base installed.

Vocabulary: Query, criteria, asterisk, navigation.

Planning: Ensure that all the computers with LibreOffice Base are open and ready.

Teaching sequence:

- Begin the chapter by introducing the concept of Query and its different types: simple, unmatched and duplicate tab.
- Demonstrate the step-by-step processes to create, run and save a Query.
- Tell students about the different Query criteria.
- Demonstrate the steps to sort data and delete fields in a Query.
- Show them the procedure to sort data in Query and delete fields in a Query.
- Demonstrate the steps to create a report using Report Wizard.

Learning Outcome:

Middle Liners will understand the concept of Query and Report in LibreOffice Base and will complete the assigned activity.

Below Liners might need some observation and guidance to complete the activity.

Front Liners will also complete the given activity and will try the other activities on their own.

Activities:**Teacher activity**

Demonstrate the steps to create a Query and Report for the students to emulate.

Students activity

Students will complete the lab activity given in the Activity section of the textbook.

Group discussion

Discuss the different types of Database Management System I.e Access, Sql Sever, MySql

Talk about

Purpose of Query and Reports in LibreOffice Base.

Online links:

- https://www.youtube.com/watch?v=O0YaVgJ6_fg&list=PLy7Kah3WzqrEerJOVPNWVaR4CYHMr4wmV&index=17
 - <https://www.youtube.com/watch?v=cxIMyNtKoHQ&list=PLy7Kah3WzqrEerJOVPNWVaR4CYHMr4wmV&index=66>
-

Assessment: Assess the students on the basis of activity completed.

Previous Knowledge: Engage the students in a brief discussion about their understanding of vector designing and its various uses.

Learning Objective:

The main objective of this chapter is to inspire students to unleash their creativity using the vector graphic editing software - Inkscape. Here they will learn:

- About Inkscape software and its uses for creating professional artwork like logos & technical illustration.
- How to open Inkscape and navigate the various components of the Inkscape window.
- To create drawing shapes using rectangle, ellipse tool and drawing a line with free hand tool.
- To resize shapes of object, move an object, rotating objects and creating an outline(stroke) by using fill and stroke pane.
- How to fill color in object using fill tab and outline color using stroke tab.
- The use of zoom tool for detailed or broader view of object.
- To draw freehand curves with Draw freehand line tool.
- To create Artistic and paragraph text using text tool of Inkscape software.
- To create a project by using different tools of Inkscape.
- To save the project in Inkscape format.

Resources: A computer workstation with Inkscape installed.

Vocabulary: vector, illustration, graphics, swatches, gradients, strokes, artistic.

Planning: Familiarize yourself with all the tools and features of Inkscape in advance.

Teaching Sequence:

- Begin the chapter by giving a brief introduction of Inkscape and its different features.
- Demonstrate the steps to open Inkscape window and make the students familiar with its components.
- Familiarize them with different Inkscape tools such as shape tool, select tool, zoom tool, draw freehand line tool and text tool.
- After getting familiar with the tools, let students have hand on practice with all the tools and features explained.
- Guide the students to use different tools of Inkscape while creating a project.
- Finally, while saving the file explain about the different file formats in which they can they save their file.

Learning Outcome:

Middle liners will understand the use of different Inkscape tools and will be able to use them for creating vector graphics.

Below liners will open Inkscape window but may need support while working on it.

Front liners will make use of Inkscape tools for creating logos and artistic work.

Activities:

Teacher activity

Demonstrate the use of Inkscape tools for creating shapes, filling color and creating artistic text on projector.

Students activity

Students will explore the use of different Inkscape tools and perform the Lab activity given in the text book.

Group discussion

Divide the class into groups and discuss the topic: 'Vector Graphics Software vs Drawing Software'.

Talk about

Discuss the different fields in which Inkscape can be helpful.

Online links:

- <https://www.youtube.com/watch?v=8f011wdiW7g&list=PLqazFFzUAPc5IOQwDoZ4Dw2YSXtO7IWNv>
 - <https://www.youtube.com/watch?v=LEjIKhVnJgU&list=PLqazFFzUAPc5IOQwDoZ4Dw2YSXtO7IWNv&index=2>
-

Assessment: Assess the lab activity performed by the students and observe how successfully they are able to utilize the different Inkscape tools.

Previous knowledge: Students might already be familiar with Google Drive and Google Docs.

Learning Objective:

- Understanding what is Cloud computing and why people prefer it over local storage.
- Understanding the advantages & characteristics of Cloud Computing.
- Distinguishing between the types and services of Cloud Computing.
- Familiarizing oneself with Google Docs, Google Drive and their working.

Resources: A computer system with Internet access.

Planning: Ensure that all computers are powered up and ready to use with internet access.

Teaching Sequence:

- Begin the chapter by introducing the need for storage and sharing of data within the computer.
- Introduce them with Cloud Computing and describe the reasons for choosing Cloud Computing as a storage media.
- Discuss about the different Advantages and Characteristics of Cloud Computing.
- Explain the different types and services provided in Cloud Computing.
- Tell them about working on Cloud Computing through Google Docs and Google Drive.
- Familiarize the students with Google Docs and its role in creating, editing and sharing a document.
- Demonstrate the steps to start Google Docs, rename documents, share files, share links and sign out from it.
- Introduce Google Drive as a cloud storage developed by Google to keep files, folders and backup.
- Demonstrate the steps to open Google Drive, upload, organize and share files/folders and sign out from Google Drive.

Learning Outcome:

Middle Liners will understand the importance of Cloud Computing for storing files and folders.

Below Liners will also understand the importance of Cloud Computing

Front Liners will work through Cloud Computing and will be able to work on Google Docs and Google Drive efficiently.

Activities:

Teacher activity

Teachers can work in Google classroom. By adding the students, you will be able to share the notes and worksheets through it.

Students activity

Search the various ways in which school education system can use Cloud Computing and create a PPT presenting the same.

Group Discussion

Cloud Computing: Empowering the education field.

Talk About

How does Cloud Computing bring innovation in education?

Online Links:

- <https://prezi.com/eua1x66x2-ol/activity-2-cloud-computing/>
- <https://www.youtube.com/watch?v=usYySG1nbfl>
- <https://www.javatpoint.com/cloud-computing-quiz>

Assessment: Assess the students after evaluating how well they are able to take advantage of the Cloud Computing provided by Google Docs and Google Drive.

Previous Knowledge: Chances are that the students might already be familiar with most of Google apps and services. Let them name different Google services that they might already be aware of.

Learning Objective: The knowledge of Google apps and services is a basic requirement in today's life, this chapter aims to make the students well-versed with its usage.

- Learning about Google and its web-based applications collectively called Google Apps, which are totally based on Cloud computing.
- Using Google services for surfing and research purposes: Google Chrome, Google Maps, Google Translate, Google Search Engine, Google Assistant and Google Earth.
- Using Gmail, Google Blogger, Google Allo and Google Duo for connecting and communication purposes.
- Using Google Calendar and Google Photos for organizational purposes.
- Using Google Docs, Google Classroom, Google Drive and Google Chrome OS to step up our working life.
- YouTube, Google Play, Google Android can be used for watching, listening and playing.
- Google Devices like Google Pixel, Google Class and Google Home can be used to convert our homes into smart homes.

Resources: Computer systems with Internet Access.

Vocabulary: search engine, cloud computing, web browser, destination, geographic, virtual assistant, blogger, posting, chromebox.

Planning: Ensure beforehand that you are well-experienced with Google services and apps.

Teaching Sequence:

- Begin the chapter by introducing the students to Google, explaining how it is not just a search engine but also a developer of a number of web-based applications collectively called Google Apps.
- Make them familiar with the different Google apps developed by Google and categorize them into particular groups.
- Explain the purpose and importance of each app categorized into a groups like – for surfing and research, for staying in touch, for organizing your stuff, for watching, listening and playing, and some of the devices introduced by the Google.
- Also ask students some examples where they might have use one other app in their daily routine.

Learning Outcome:

Middle liners will be able to use most of the Google apps and will work online.

Below liners might need help while operating Google Devices.

Front liners will be able to make optimum use of most Google apps as and when required.

Activities:

Teacher Activity

Demonstrate the working of different Google apps on the screen. Create an online classroom, add the students and share the assignment with them through it.

Student Activity

Students will explore Google Docs and create a document on the topic 'Google Classroom'.

Group Discussion

Discuss how Google has made our life easier.

Talk about

The similar apps provided by Microsoft.

Online links:

- <https://www.youtube.com/watch?v=7grWCfQXtf0>
- <https://www.youtube.com/watch?v=EOZGPNitae4>
- <https://www.youtube.com/watch?v=jMWrsRNveSI>
- <https://www.youtube.com/watch?v=k388Q8xvsXg>

Assessment: Based on class response and participation, assess the students.

Previous Knowledge: Students might already be familiar with the different Apps and they might already know how to download them on mobile phones.

Learning objective:

- Differentiating between Android and iOS.
- Differentiating between different types of apps: native, web and hybrid
- Identifying the different categories of apps based on the purpose they serve.
- Familiarizing ourselves with the steps to run, install or remove an app.
- Developing, testing and running apps.

Resources: A computer system with internet access and Android mobile phone.

Vocabulary: Android, optimized, consistent, tendency, professional, navigate, components.

Planning: Install and set up the App Inventor software.

Instructions for how to do this are provided in a tutorial on the MIT website: <https://appinventor.mit.edu/explore/install-app-inventor-software.html> The teacher and students should have a basic working knowledge of programming.

Teaching sequence:

- Begin the chapter by discussing which apps do they use frequently and their uses.
- Introduce them with the term App and tell them about the different App stores from where they can download the Apps.
- Explain the three different types of Apps: native, web and hybrid.
- Discuss the different categories of apps with their features by citing examples.
- Demonstrate the working of Apps by demonstrating how to Install, Run or remove an App.
- Now ask students what kind of apps they would invent if they knew how to develop one.
- Introduce them with MIT App inventor and its key parts.
- Open App Inventor at ai2.appinventor.mit.edu through sign in by Gmail account and make sure that the emulator pops with an app when you "Connect | Emulator". Also, make sure sound plays on the emulator and images from the app load correctly.
- Demonstrate the process to open an App for Android and testing the app in mobile device as well as Emulator.

Learning Outcome:

Middle Liners will enjoy learning App development and will create their own interesting Apps using MIT App inventor.

Below Liners will enjoy learning App development but will need observation and guidance while creating their apps.

Front Liners will complete the given assignment and will also try to create their own App using their creativity.

Activity:

Teachers Activity

- Install the MIT App Inventor 2 Companion on each Android device. This will allow students to test their apps.
- In the settings for each device, make sure to select 'Allow Unknown Sources' in the device's Security Settings. This will allow students to download apps to their phone.
- Make sure the computers and devices can connect to the same Wi-Fi connection.
- Open App Inventor at ai2.appinventor.mit.edu and make sure you can test an app with "Connect | AI Companion".
- Test to make sure this all works.

Students Activity

Students will create an App as given in the Activity section of the textbook.

Group Discussion

Mobile Apps - A boon or a bane?

Talk about

Tips and tricks to create an App.

Online Links: Refer to MIT's tutorials for App Inventor at:

- <http://appinventor.mit.edu/explore>
- https://www.youtube.com/watch?v=nC_x9iOby0g
- <https://appinventor.mit.edu/explore/content/windows.html>
- <https://appinventor.mit.edu/explore/get-started>

Assessment: Review the apps created by the students. Assess the students based on how efficiently their app is created and how smoothly it functions.

Previous Knowledge: Students are familiar with the concept of programming but they do not have any prior knowledge about Python. Brush up their knowledge on programming and check how much they retain from previous classes.

Learning Objective: To make students learn about:

- The concept of programming language and introducing Python as a programming language
- Installing the latest Python 3 distribution
- Recognizing the difference between the Python console and the Shell (IDLE) why use one over the other.
- Creating a simple program. Run it from the command line and from the Shell.
- Rules regarding the use of Lines and Indentation.
- Character set, Tokens, comments, statements, Data Types and Variables.
- Defining Input and Output and Error handling.

Resources: computer systems with Python 3.6 installer (or link to download the installer) and a short Python program for the student to run.

Vocabulary: interpreted, Imperative, Object oriented, interactive, integrated, expressions, indentation, identifier, delimiter, literals, operators, parentheses, executed, violated, syntax, script mode, interactive mode.

Planning: Ensure that Python is installed on all the computers. Go through the chapter in advance to familiarize yourself with programming skills.

Teaching sequence:

- Begin the chapter by discussing the need of Computer Programming languages and introduce the students to the programming language - Python.
- Brief them the different features and programming styles of Python.
- Demonstrate the process to Install Python and introduce them with the Python window called Python shell. Make them familiar with its interactive mode showing the welcome message with version details and three greater than sign called prompt.
- Demonstrate a small command or expression to demonstrate the creating, running and saving of a program in interactive mode as well as script mode.
- Give the guidelines for the program layout - lines and Indentation.

- Make them familiar with the Character set that language can recognize and Tokens, the smallest element of a program. Brief them about Identifiers, Keywords, Delimiter, Literals, and Operators (Arithmetic, Relational/ Comparison, Logical, Assignment) included in Tokens in Python.
- Explain the use of Comments (single line and multi-line), Statements (simple and compound), Data Types (numbers and sequence) and Variables in Programming.
- Describe the use of Input and Output function within the program.
- Make the students familiar with the different types of errors in Python Program.
- Demonstrate a small program to make them understand the concept of programming in Python.

Learning Outcome:

Middle Liners will understand the concept of programming and will try to create and run small programs.

Below Liners will understand the concept of Programming but will need support and guidance while using variables and statements within a program.

Front Liners will be able to create programs in Python on their own with minimum guidance.

Activities:

Teacher activity

Create a small program in Python to be shown as an example to the students.

EXAMPLE 1:

```
# Program to find simple interest
# for given principal amount, time and
# rate of interest.
# We can change values here for different inputs
P = 1
R = 1
T = 1

# Calculates simple interest
SI = (P * R * T) / 100

# Print the resultant value of SI
print("simple interest is", SI)
```

EXAMPLE 2:

```
# Program to swap two variables
# To take the input from the user.
x= input(int("Enter value of x:"))
y= input(int("Enter value of y:"))
# Create a temporary variable and swap the values.
temp=x
x=y
y=temp
# Print the result after swapping
print("The value of x after swapping:",x)
print("The value of y after swapping:",y)
```

Students Activity:

- Write a Python program to find the quotient and remainder of the given number.
- Write a Python Program to Calculate the Cube of a Number using Arithmetic Operators.

Group Discussion

Discuss the different types of operators in Python.

Talk About

Different features of Python Programming.

Online Links:

- <https://www.w3resource.com/python-exercises/>
- <https://www.youtube.com/watch?v=I9v1ewQXv5M>
- <https://study.com/academy/practice/quiz-worksheet-while-loops-in-python.html>
- <https://www.edureka.co/blog/python-programming-language>

Assessment: Evaluate the programs developed by the students in Python and assess them on their basis.

Previous Knowledge: Having learnt the previous chapter, students are now familiar with Python programming and can create simple programs in it.

Learning Objectives: Here students will be able to learn about

- Control Structures
- Conditional Control Structures
- Loop Control Structures
- Break Statement and Continue statement

Resources: A Computer System installed with latest version of Python (i.e. Version 3.6).

Planning: Ensure in advance that you are familiar with the use of statements within Python programming.

Teaching Sequence:

- Begin the chapter by discussing the need for control structures in Python.
- Describe the three basic control structures: sequential, conditional and loop, give examples of the types of problems they are used for.
- Have a brief discussion about Conditional Control structures and the statements used.
 - If Statement
 - If-else Statement
 - If-elif-else Statement
 - Nested if Statement
- Explain the key features of Loop Control Structures and statements used
 - For Loop
 - While Loop
- Demonstrate a program to show the working of the above statements.
- Explain and demonstrate the use of Break Statement and Continue Statement.

Learning Outcome:

Middle Liners will understand the Control Structures and will try to create and run small programs based on Condition and Loops.

Below Liners will understand Control structures but they might need support and guidance while using Loop statements within a program.

Front Liners will be able to create programs in Python on their own with minimum guidance.

Activities:

Teachers Activity

Create a small program in Python based on Condition and Loops to be shown as an example to the students.

Python program to check if a given number is a Palindrome:

```
# Get the number from the user.
n=int(input("Enter number:"))
temp=n
rev=0
while(n>0):
    dig=n%10
    rev=rev*10+dig
    n=n//10

# Check for Palindrome.
if (temp == rev):
    print("The number is Palindrome!")
else:
    print("The number is not Palindrome!")
```

Python program to check whether the input character is an alphabet:

```
# taking user input
ch = input("Enter a character: ")
if((ch>='a' and ch<= 'z') or (ch>='A' and ch<='Z')):
    print(ch, "is an Alphabet")
else:
    print(ch, "is not an Alphabet")
```

Students Activity:

- Create a Python program to print all number in a given range divisible by 5.
- Create a Python program to check whether a number is Prime or not.

Group Discussion

Advantages of using Python language and its significance in today's era.

Talk about

How is Python an interpreted language?

Online Links:

- <http://net-informations.com/python/flow/loop.htm>
- <https://beginnersbook.com/2018/02/python-programs/>
- <https://www.geeksforgeeks.org/python-programming-examples/>

Assessment: Assess the performance of the students by evaluating the programs created by them.