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Expt. No. 01. Page No. 01

Aim :- Install given version of Python on the Computer System.

Requirements :- • A Computer System { either linux Os or Windows Os } ,

• Proper network Connectivity

* The procedure to install Python 3 on Ubuntu Linux Os :-

Install Python 3.6 :

1. To follow the installation procedure , we need to be connected to the Internet .

2. Open the terminal by pressing "Ctrl+Alt+T" keys together .

3. Install Python 3 :

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a) For Ubuntu 16.04 :

i) In the terminal, run the Command :
(A) Sudo apt-get install python 3.5
(B) Sudo apt-get install python3-pip

ii) Make sure that you press Enter after entering every Command.

iii) After entering the Commands, the terminal will prompt you for your password, type it in to the terminal.

b) For Ubuntu 16.10 and Ubuntu 17.04 :

i) In the terminal, run the Command :
A. Sudo apt-get install python 3.6.
B. Sudo apt-get install python 3-pip.

ii) Press enter.

iii) The terminal will prompt you for your password, type it in to the terminal.

iv) Press Enter.

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c) For Ubuntu 17.10 and above, the system already comes with Python 3.6 installed by default.

* The procedure to install Python 3 on Windows OS :

Python has evolved over the years, the latest version of python available now is 3.11.1.

1. to follow the installation procedure, we need to be connected to the Internet.

2. Visit www.python.org/downloads/

3. Choose appropriate installer based on the specification of PC.

4. After downloading, double click the download site.

5. A dialog box will appear on the screen.

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6. Check the box "add python 3.11.1 to path", executable location will be added to the execution path.

7. Click on 'install now'

8. Python files will get installed in the following directory -

C:\users\"username"\app data\local\programs\Python\Python 3.11.1.

Result

In a given computer system a given version of python is installed.

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Aim

Access given value from the tuple.

Theory

- In python data types are categorized of data items.
- It represents the kind of value that tells what operations can be performed on a particular data.
- Tuple is an advance data type. It is a sequence data type.

* Tuple → It is a list which cannot be modified once they are created.
  - → Collection of ordered and immutable elements in python.
  - → defined using parantheses ( ).
  - → Can contain any type of data.

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- are commonly used to represent a group of related values that should not be changed, such a coordinates, dates etc.

- To access a value from a tuple
  - we can use indexing.
  - The first element in a tuple is 0, the second element is 1, and so on.

Example - Program and output:

```
...
my_tuple = ( January , february ,
             March , April , May)

print (my_tuple [0])
 # output : January
print (my_tuple [4])
 # output : May
...
```

- We can also use negative indexing to access elements from the end of the tuple.

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The index of the last element in a tuple is -1, the second to the last element is -2, and so on,

...

```
print(my_tuple[-3])
  # output: ~~March~~ March

print(my_tuple[-4])
  # output : February
```

...

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Aim

Create a free cloud account.

A general guide on how to create a free cloud account :-

1. Choose a cloud service provider :

→ There are several cloud service providers available ~~available~~ such as Google cloud, Amazon Web Services(AWS), Microsoft Azure, and more. Choose one, that best suits your needs.

2. Go to the provider's website :

→ once you choosen your provider, Go to their website.

3. Sign up for an account :

→ Look for the "Sign up" or "Create Account" button and click it. You will be asked to provide some personal information such as name, email address and

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password.

4. Verify your email address :

→ After providing your information, you will receive an email from the provider asking you to verify your email address.

5. Choose a plan :

→ Most Cloud services providers offer free plans with limited features and resources. Choose the plan that best suits your needs.

6. Start using your account :

→ Once you have completed all the steps above, you can start using your free Cloud account.

Remember to always read the terms and conditions of the provider before signing up for an account.

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Aim

Store data on cloud and retrieve it.

The general steps to store data on cloud and retrieve it :-

1. Choose a cloud storage provider :

- There are many cloud storage providers are available such as Google Drive, Dropbox, One Drive, Amazon S3, etc.

2. Create an Account :

- Sign up for an account with your chosen cloud storage provider.

3. Upload your data :

- Once you have created an account, you can upload your data to the cloud storage provider's servers.

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4. Organise Your data :

- You can organize your data into folders or categories to make it easier to find later.

5. Backup Regularly :

- It is important to backup your data regularly to ensure that you don't lose any important information in case of a system failure or other disaster.

6. Retrieve your data :

- To retrieve your data, simply log-in to your account and download the files you need.

7. Ensure Security :

- Make sure that you use strong passwords and enable strong passwords and enable two-factor authentication to protect your data from unauthorized access.

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Aim

Study of different type of network cables and practically implement the crosswired cable and straight through cable using clamping tool.

Theory

There are several types of network cables, including

- twisted pair cables,
- coaxial cables,
- Fiber optic cables, and
- Multi conductor cables.

However, the most commonly used network cables are twisted pair cables, which can be further classified into two types: Straight through cable and crosswired cable.

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- Straight Through Cable :

→ A STC is used to connect different devices such as a computer to a switch, router to modem, etc.

→ In this type of cable, the wire ~~eg~~ arrangement at one end is the same as the wire arrangement at other end.

→ The wire arrangement for STC is :-

a) White / Orange
b) Orange
c) White / Green
d) Blue
e) White / Blue
f) Green
g) White / Brown
h) Brown

- Cross wired Cable :

→ A CC @. is used to connect similar devices such as Computer to another Computer, switch to another switch, etc.

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→ In this type of cable, the wire arrangement at the one end is different from the wire arrangement at other end.

→ The wire arrangement for a CC is :

a. White / Green
b. Green
c. White / orange
d. Blue
e. White / Blue
f. orange
g. White / Brown
h. Brown

* To practically implement these two types of cables using clamping tools, follow these steps :

Materials Required :

- Twisted Pair Cable (CAT5e or CAT6)
- RJ45 Connectors (2 for each type of Cable)
- Clamping Tool / Crimping Tool

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* Steps for Straight Through Cable :

1. Strip off about 2 inches of outer insulation from one end of the twisted pair cable.

2. Untwist and arrange each individual wire according to the wire ~~arr~~ arrangement.

3. Cut off any access wires.

4. Insert each wire into its respective slot in an RJ45 connector.

5. Use crimping tool to crimp the connector onto the cable.

6. Repeat steps 1-5 for the other end of the cable.

* Similarly, Do follow these steps {as we have done in STC}, same in Crosswired Cable. But, Untwist and arrange each individual wire according to the wire arrangement of CC.

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Once both types of cables are made, they can be tested by connecting them between two devices and checking if they establish a network connection.

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Aim

Connect the Computers in local area network.

* To connect Computers in a local area network, follow these steps :-

1. Determine the type of network you want to create : wired or wireless.
2. Connect all Computers to a common network device such as a router or switch.
3. Configure the network device by assigning an IP address and subnet mask.
4. Enable file and printer sharing on each Computer.
5. Create a workgroup or domain name for the network.
6. Share files and folders between Computers by setting permissions.

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7. Test the connection by pinging other Computers on the network.

8. Install any necessary software or drivers to enable communication between devices.

9. Set up security measures such as firewalls and password protection to protect the network from unauthorised access.

10. Regularly maintain and update the network to ensure optimal performance and security.