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In [ ]: #What is Computer Programming?
Computer Programming: is the process of creating a set of instructions that
tell computer how or what task will be performed
Programming can be done with the help of Programming Languages : Python , c,c++,java javascript
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In [ ]: #Why we need coding in our daily life.
1.Easier way to perform a difficult task
2.Problem Solving
3.It has alot of advantages in daily life.
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In [1]: 100000000000000//23//24+23+34
```

```
Out[1]: 181159420346
```

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In [ ]: #What is Python Programming?
Python is nothing but a programming language like C/C++ ,JAVA.
Python is a general purpose high level programming language
Few important things related to python:
We have two types of programming languages --> Dynamic and Static
1.Python is a dynamic typed language--> we can change the value
2.Python is high level programming language-->
#We need not to take care low level things(memeory utilization,datatypes) thatswhy python is
#considered as programmer friendly langauge.
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In [5]: c langauge
#headerfile
int main()
{
    printf("Hello world");
}

c++
#headerfile
int main()
{
    cout<<"Hello world";
}
Java
import java.util
class test{
    public static void main(string args[])
    {
        system.out.print("Hello world")
    }
}

File "C:\Users\praty\AppData\Local\Temp\ipykernel_11400\3601109297.py", line 1
  c langauge
    ^
SyntaxError: invalid syntax
```

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In [6]: #Python
print("Hello world")

Hello world
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In [ ]: Static: whenever we defining any variable as static that means the value
of that variable cannot be changes

Example: JAVA AND C/C++
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In [ ]: Static: if a value of variable is not changing with respect to time.
Dyamaic : We can change
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In [ ]: static typed programming languages--> we need to define the datatype
int a=10;
boolean a=true
```

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In [8]: #Dynamic Programming langauge--> we need not define the datatype(Internally at run time python will
#automatically consider its typed)
True--> garbage collection--> deletion of unkown or unreferenced objects.

Out[8]: True
```

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In [9]: 10--> garbage collecton -->

Out[9]: 10
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In [ ]: #History of Python
Python is developed by Guido Van rossum in 1989 at t working on National research institute netharland
But Official Date of Bith of python is 20th feb 1991.
Python is implemented before java(1995)
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In [ ]: Data Science , Machine learning , big data , ai
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In [ ]: #Where we can use python:
1.For implementing desktop application --> Tkinter
2.For implementing web application --> Django ,
Flask(back-end-database connectivity , api sever loading)
3. For implemnting database --> mysql , oracle , sql
4.We can use python for implementing a game--> pygame
5.For machine learning --> Scikitlearn
6.for deep learning --> tensorflow , keras
7.FOR IOT(INTERNET OF THINGS)-->AI
8.data VISUALIZATION--> SEABORN AND MATPLOTLIB #TABLEU AND POWERBI
9.Data SCIENCE AND ANALYSIS--> NUMPY,PANDAS

NOTE:
1.INTERNALLY PYTHON IS USED IN AMAZON , MICROSOFT , NASA, YOUTUBE,GOOGLE
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In [ ]: #Why Python?
#FEATURES OF PYTHON
1.SIMPLE AND EASY:ITS SYNTAX IS SIMILAR TO ENGLISH LANGUAGE
2.FREE AND OPEN SOURCE
3.hIGH LEVEL PROGRAMMING LANGUAGE --> IT IS PROGRAMMER FRIENDLY
4.PLATFORM INDEPENDENT-->
5.DYNAMIC LANGAUGE--> WE NEED NOT TO DEFINE THE DATATYPE INETERNALLY PYTHON WILL CONSIDER THE DATATYOES
6.BOTH FUNCTIONAL AND OBJECT ORIENTED
7.INTREPRETED--> line by line execution
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In [ ]: def sum(a,b):
    return a+b
class sum:
    def sum(a,b):
        return a,b
```

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In [11]: print("Hello world")--
print("Print Hello world")---

Hello world
Print Hello world
```

```
In [10]: print("HELLO WORLD")

HELLO WORLD
```

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In [ ]: #Python Installation
Computer/Laptop--> whose ram is less then 4gb --> Python IDE
Computer/Laptop--> whose ram is greater than 4gb --> Anaconda
Computer/Laptop or no laptop/computer --> No any system requirement --> Google colab,Online compiler
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In [ ]: #Jupyter Notebook Setup
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In [ ]: #Worst case of using python
1.For implementing mobile application --> Java or kotlin
2.For implementing compilers--> C/C++
```