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MLP - Machine learning programming.

In Google: Anaconda navigator → Download → Skip registration.
click on Distribution installer
IDE - Integrated development Environment.
[Inbuilt libraries)

Launch Jupyter notebook → new → py 3.
Soundharya.ipynb. (notebook with python)
Console → o/p window.

Linux ⇒ It is command based program. More security.

python:
There are 3 levels is programming language.
1) Low level
2) assembly level
3) High level. (more of english words).

- python is Highlevel language.
- Interpreded (run directly easy debugging)
- Dynamically typed (no need to declare data types)
- object oriented programming language. (not 100% oops)
- Intendation (exactly 1 tab space) (every line considered)

ex: Lap is "class" and that Brandy is "object"

Features of python:
- Simple syntax [easy to learn and use]
- vast libraries. [everything is readymade]
- Functions are inbuilt [we have to call and use]
- platform independent. (support to all Linux, macos, windows)
- less memory consumption.
- Execute faster compare to some programming lang.
ex: c

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• Interpreted (line by line execution) we use interpreter in python.
compiler executes all 100 lines at once.

Applications of python:-
• web development • mobile app development • AI
• machine learning / deep learning • Graphics.
• IoT (Internet of things) • cyber security
• automation and desktop application.

Comments:
part of the code but won't, consider is execution pr time.
2 types:-
1) Single line comment ex: # my world. (hashtag)
2) multiple line comment ex: """ my first program""" (3 single (or) double quotes)
uses:-
• for our future use.
• easily understandable by others user's that's y we need to write comment.

Keywords:-
• They are the reserved words used for specific or particular tasks.
• They cannot be used as identifiers (variable, function
• true (or) false, for, if, else, while, break, try, catch, except, finally .... etc.

Variables:-
• variables are used to store (assign) the values in the specific.

a = int 5
variable, datatype 5 = value (or) data

• It's not compulsary, but, better understanding we use it.

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2 types:
• Valid variable declaration.
• invalid variable declaration

Valid variable declaration:-
• a = 5
• A = 7
• num = 11
• num1 = 21
• Num2 = 75
• emp_id = 123
• emp_name = "strong" (or) 'sound'
• _emp_no_ = 934562
⇒ String (contains alphabets, characters, special characters, numbers)

(x) Apart from (_) underscore we can't use any special symbols.

Invalid variable declaration:-
1n = 35
str#name@ = "aruna"
stu id = 3456. (no space b/w)

Data types:-
• It's predefined components and specify the data category.
Categorical = another name of string
name = str string = str
age = int
phone = str (we can't perform math calculation by using that number then go for string)
salary = float.
height = float
weight = float
DOB = str [Alpha numeric). we dont have directly but we can convert to date using libraries)
for analysis numeric data
• String (categorical) for calculation purpose.
• [too difficult work with that)

python data types:-

- reading from the user means datatype is necessary.

Numeric data types.

- Int
- float
- complex
- string

⇒ store single value.

Boolean (True (or) False)

special datatypes: (data structures)

≠ DSA - Data structure Algorithm
it different we can't use here.

- list
- set
- Tuple
- dict.

In python we can store line by line and single line also.

- a = 4
- b = 5
- c = 6

- a, b, c = 4, 5, 6

Functions:-

Input function:-

ex: a = int (input()) a = Reference Variable.

we need to get anything from user use I/p.

a = input ("enter a number:")

[not compulsory, only for user understanding purpose)

output function:- a = 10

ex:- print (a)

we need to display anything to user use o/p.

type (a) [string + string] concadination

1) write a program to read employees id, name, phone and print the details?

program:-

```
emp_id = input ("Enter employee name:", emp_id)
emp_name = input ("Enter employee id:", emp_name)
emp_phone = input ("Enter employee phone:", emp_phone)
print (emp_id)
print (emp_name)
print (emp_phone)
```

o/p ⇒

Enter employee id : Riya 24576.
Enter employee name: Riya.
Enter employee phone: 9375264216
24576
Riya.
9375264216.

2) Take 2 float number from user. Sum the number and print?

program:-

```
x = Float (input ("enter x value:"))
y = float (input ("enter y value:"))
print (x+y)
(or) print (x, "+", y, "=", x+y)
(or) print ("sum of:", x, "+", y, "=", x+y)
```

} difficult method.

o/p:

Enter x value: 6
Enter y value: 7
13.0

Variable = no quotes
manual data = we need quotes single or double

2. different method to print:-

we need to assign values exactly else confusion occurs to users.

[. format method] :-

print ("sum of {} + {} = {} ".format (x, y, x+y))

o/p:-

sum of 6.0 + 4.0 = 10.0 o/p is same.

[F string method] :-

print (f"sum of {x} + {y} = {x+y} ")

o/p:-

sum of 6.0 + 4.0 = 10.0 o/p is same.

3. Write a program to calculate area of triangle and circle with given input ?

(AOT) Area of triangle = $\frac{1}{2} \times b \times h$. (0.5 x b x h)

(AOC) Area of circle = πx^2 (3.14 x r x r)

↑ assignment operator

b = float (input())

h = float (input())

r = float (input())

print (f" The area of triangle is {aot} \n the area of circle is {aoc}")

(or) print (f" The area of triangle is {0.5*b*h} \n the area of circle is {3.14*r*r}")

operators :-

Arithmetic operators :

+ → addition

- → subtraction.

* → multiplication.

/ → reminder. Division.

% → modulus (or) reminder.

// → only quotient values

** → power value.