Day2 Concepts ¶

- Introduction to Markdown
- Python basics

Markdown Basics

- Headings
  - 6 headings
- paragraphs
- links
- images
- tables

heading1

heading2

heading3

heading4

heading5

heading6

Font styles

- plain text
- *italic text*
- **bold text**
- ***bold italic***

URLs

[text to diplay (url)](url)

[Google (https://www.google.com/)](https://www.google.com/)

[Facebook (https://www.instagram.com/)](https://www.instagram.com/)

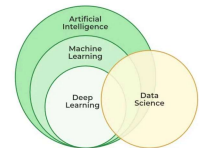[Youtube (https://www.youtube.com/)](https://www.youtube.com/)

[Instagram (https://www.instagram.com/)](https://www.instagram.com/)

Creating Markdown tables

S.No	Name	Roll	Dept	Year
1	Mallika	123	CSE	2
2	Geethika	456	ECE	3
3	Rithesh	203	AIML	1
4	Deepak	405	AIDS	4

Image Display

html tag

Data Analysis Workshop Schedule

Day1

1. Software installations
    A. from python official website
    B. anaconda
2. python programming/coding
    * cmd
    * IDLE
    * jupyter notebook
3. Python Mobile Application
    * pydroid3

    Day2 Concepts
    - Introduction to Markdown(**Morning Session**)
    - Headings
    - font styles
    - tables
    - URLs
    - images display
    - HTMLtags-inline CSS
    - Introduction to Python Concepts(**Noon Session**)

- python variables
- datatypes
- inputs
- operators
- conditionals
- loops

Day3

Day4

Day5

Day2 Task

- Student Resume Creation using markdown(Jupyter)
  - resume should have your profile picture,your education details in a table and your social media links

Introduction to Python

- python is a general purpose,high level and interpreted programming language
  - **General Purpose**
    - used for multiple purposes such as web development,app dev,system s/w deve and scientific computation
  - **High Level Lang**
    - user understandable language
  - **Interpreged Language**
    - gives us the line by line execution
- It was introduced in the year 1991 by Guido Van Rossum
- **Features of python**
  - It is semi-object oriented
  - It is a syntax free language,seems to be English lang
  - It is both case sensitive and space sensitive
  - It is simple to code and easy to learn
  - It is dynamically typed lang
- **Applications**
  - Robotics,IOT,CC,DS(AI , ML) etc

In [6]:
```python
1  # welcome message
2  print('Welcome')
3  print("welcome")
4  print('''welcome''')
5  "I am Ruthu Technical Trainer from Aylin Technologies"
6
```

```
Welcome
welcome
welcome
```

Out[6]: 'I am Ruthu Technical Trainer from Aylin Technologies'

Errors in python

- An invalid statement in the program said to be Error
- 3types of errors
    1. Syntax Error
        - Error related to syntax
    2. Value Error
        - key error,name error,value error,file not found error(files)
    3. Indentation Error
        - Error related to space

Variables in python

- Varaible is a container used to store the data
- let x=10

In [12]:
```python
1  # No datatype declaration in python
2  name="Ambani"
3  idn=5421
4  comp="JIO"
5  location='Mumbai'
6  print(name)
7  print("I am",name)
8  print("I am",name,"staying in ",location,'Employer of',comp)
```

. . .

```
In [13]:  1  # you are the st of clg studying cse 2nd year
          2  st='Anitha'
          3  roll="242UA05401"
          4  dept="CSE"
          5  yr=2
          6  clg="GIST"
          7  loc="Nellore"
          8  print("I am",st,"having roll number",roll,"from",dept,yr,'nd year in',clg
```

I am Anitha having roll number 242UA05401 from CSE 2 nd year in GIST located
at Nellore

```
In [14]:  1  # multi variable assingments to a value in a single line
          2  x=10; y=20; z=30 # this is possible in python 2+ v
          3  a,b,c=10,20,30
          4  f=s=50 #
          5  print(x,y,z,a,b,c,f,s)
```

10 20 30 10 20 30 50 50

```
In [15]:  1  # dynamic inputs
          2  lang=input("enter a lang:") # to read str data by default
          3  marks=int(input("marks obtained:"))
          4  review=float(input())
```

...

```
In [19]:  1  type(lang),type(marks),type(review)
```

Out[19]: (str, int, float)

datatype conversion/casting

- conversion of datatype of var/iterable from one format to another
- 2types of conversions
    1. Implicit conversion
        - Default conversion by the interpreter
    2. Explicit conversion
        - User conversion
            - Ex:int(input())

```
In [20]:  1  # implicit conversion
          2  print(9+9)
          3  print(9+4.5) #int into float
```

...

```python
In [22]:   1  #Explicit conversion
           2  num=8
           3  pr=11
           4  p='11'
           5  print(pr+p) # raises error
```

. . .

```python
In [23]:   1  pr+int(p) # str into int
```

. . .

```python
In [24]:   1  p+str(pr) # int into str
```

. . .

Keywords in python

- A reserved word which has special meaning and purpose
- 35 keywords in python
- List of keywords
- as,and,break,continue,class,def,del,else,elif,for,if,in,lambda,catch,or,pass,raise,with,try,while etc

```python
In [25]:   1  import keyword
           2  print(keyword.kwlist)
```

. . .

```python
In [1]:    1  # write a python program to take/read 2 integers from user and
           2  #perform all the arithmetic operations
           3  fs=int(input("first number:"))
           4  sec=int(input("second number:"))
           5  print("sum=",fs+sec)
           6  print("diff=",fs-sec)
           7  print("product=",fs*sec)
           8  print("exponent=",fs**sec)
           9  print("coefficient=",fs/sec)
          10  print("exact division=",fs//sec)
          11  print("remainder=",fs%sec)
```

. . .

```python
In [2]:    1  # Develop the calculator logic
```

Operators in python

- Anything that perfroms the operations on the operands
  - Ex:a+b , + is the arithmetic op'r
- arithmetic operators
  - +,-,,*,/,//,%
- assignment
  - =,+=,*=,-=,/=
- bitwise
  - operating on the each bit of the digit
  - int has 4bytes
  - 1byte=8bits, 32bits for int
  - ||,&&,<<,>>,^(xor)
- boolean
  - True,False,None
- conditional
  - if,else,elif
- relational
  - <,<=,>,>=,==,!=
- identity
  - is,is not
- logical
  - and,or,not
- membership
  - in,not in
- operators used in print
  - sep,end

```python
In [3]:    1  # assignment operators ->=,+=,*=,-=,/=
           2  val=int(input("enter the number:"))
           3  val2=int(input("second number:"))
           4  val=val+10 # val+=10
           5  print("val=",val)
           6  val2=val2-5 # val2-=5
           7  print("val2=",val2)
           8  val*=5 # val=val*5
           9  val/=7
          10  print(val,val2)
```

· · ·

```python
In [7]:    1  # boolean
           2  x=10
           3  y=20
           4  print(x is 20,y is 20) # id(x)
           5  b=False
           6  a=True
           7  n=None
           8  b,a,n
```

· · ·

In [8]:
```python
1  id(x),id(y)
```

...

In [9]:
```python
1  i=j=10
2  id(i),id(j)
```

...

In [1]:
```python
1  # Bitwise Operators
2  v=10
3  y=15
4  z=20
5  print(bin(v),bin(y))#binary
6  print("bitwise and=",v&y)
7  print("bitwise or=",v|y)
8  print("XOR",v^y)
9  print("left shift result=",2<<z) # val gets upated-->80
10 print("right shift result=",z>>3) # r
11
```

```
0b1010 0b1111
bitwise and= 10
bitwise or= 15
XOR 5
left shift result= 2097152
right shift result= 2
```

In [32]:
```python
1   # bitwise and(&)
2  0000 1010
3  0000 1111
4  =========
5  0000 1010
6  0000 1111
7  0000 0101-->
```

```
  File "C:\Users\ruthu\AppData\Local\Temp\ipykernel_1260\3143688631.py", line 2
    0000 1010
         ^
SyntaxError: invalid syntax
```

In [18]:
```python
1  bin(20)
```

Out[18]: '0b10100'

In [20]:
```
1  00010100 # 20
2  0000 0000-> 0001 0100-->0101 0000--> 2**6+2**4=64+16=80
3  000010100-->00000010-->2
```

...

In [ ]:
```
1
```