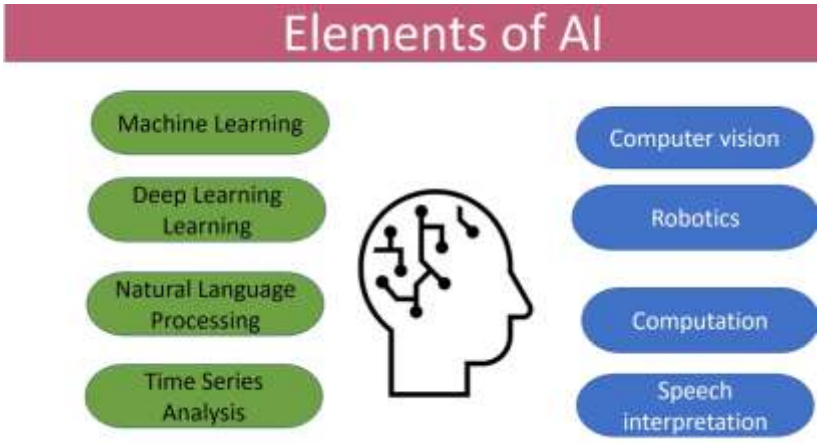
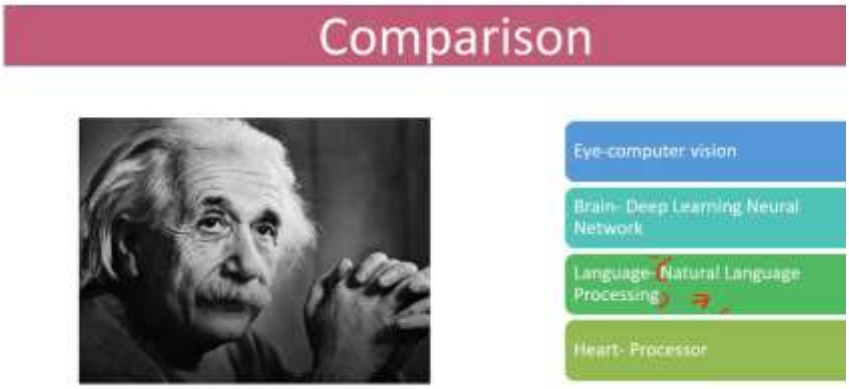
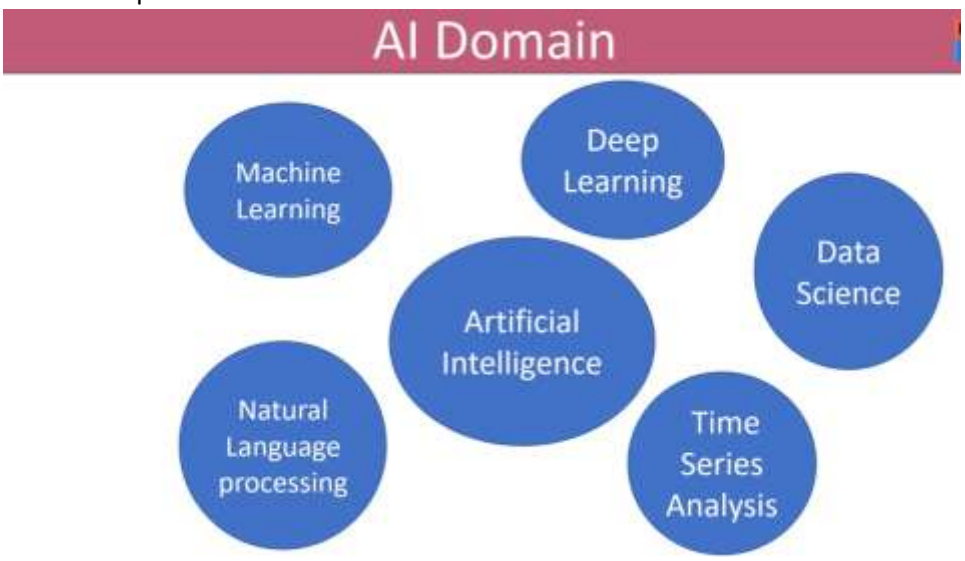
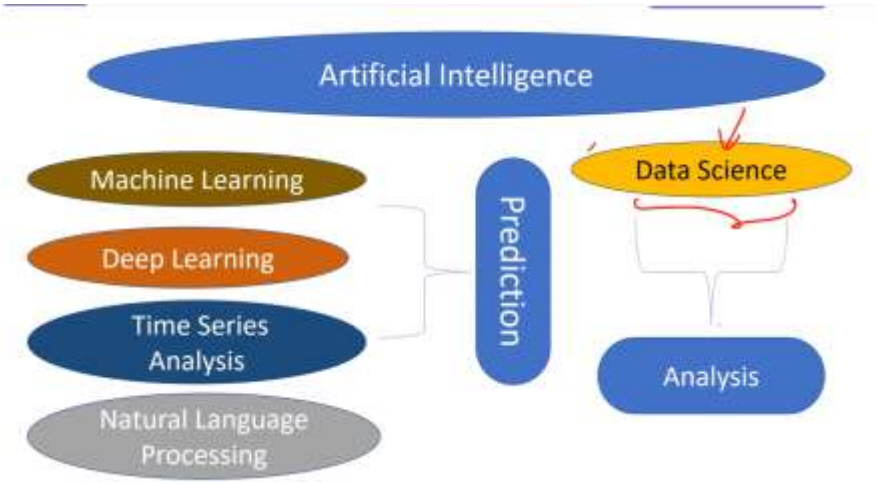
1. Artificial intelligence -> works like Human brain, but the brain is not made up of math's and work like prediction.i.e artificial brain.
2. 

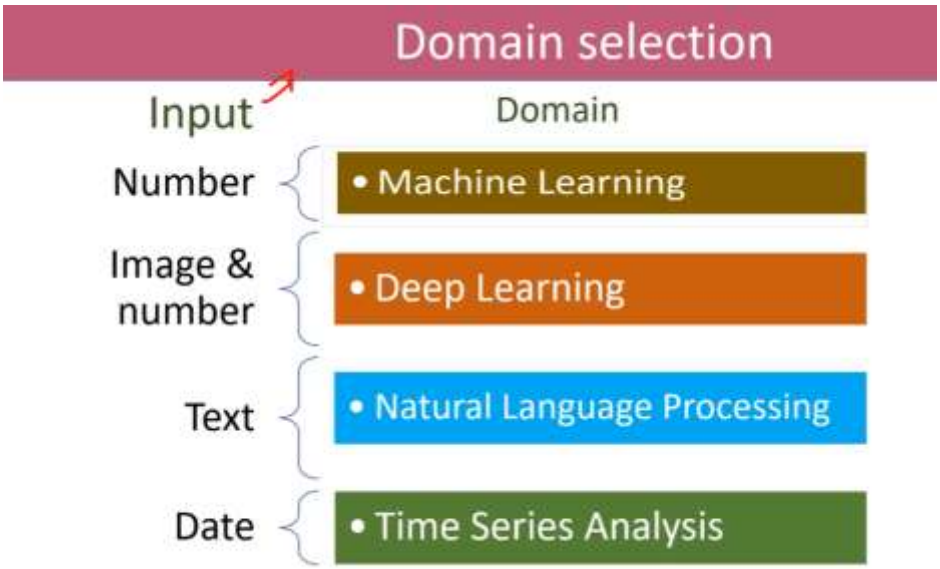
3. Human intelligence comparision with artificial intelligence


4. Core concept


5. All under prediction except data science. Somehow analysis is depending on previous company profit and managing comparison.

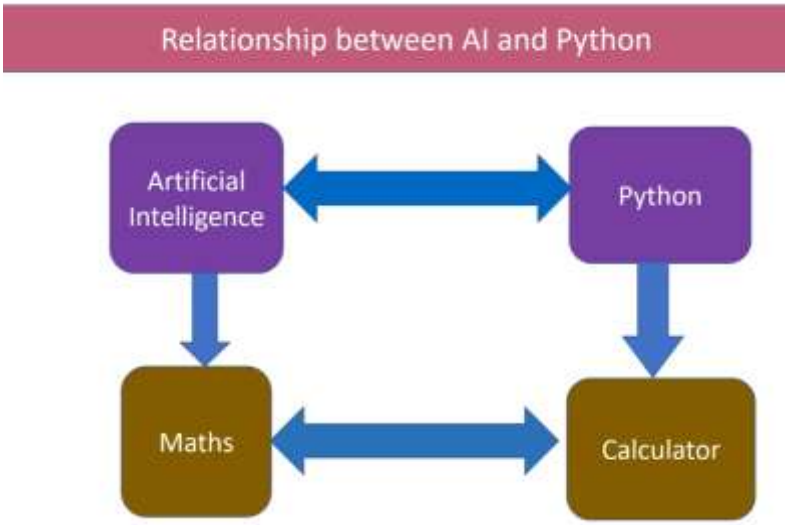


6. Domain selection based on the requirement.



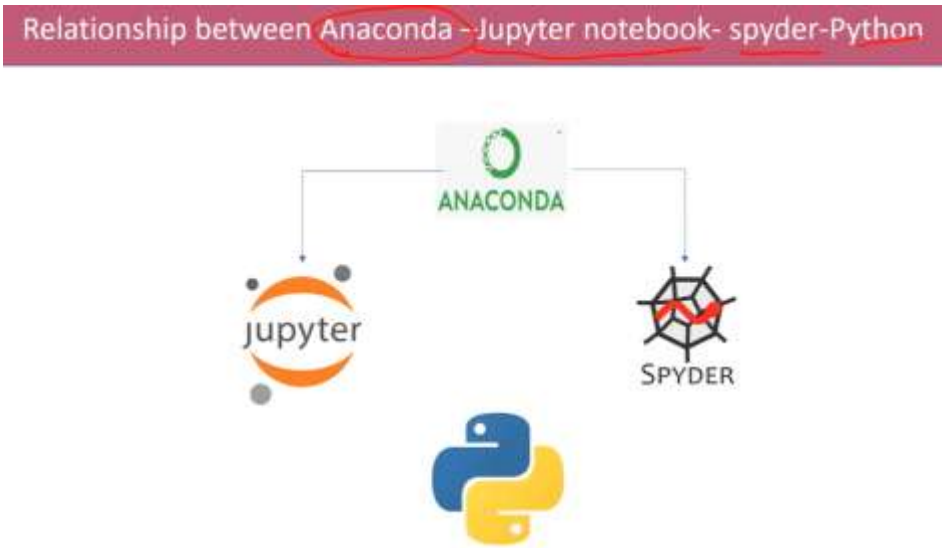
7. Prediction -> Input -> {DATA SET}
8. Machine Learning -> Numbers
   Deep learning ->Images input as data set
   Natural Language ->Text (Boolean) -> True/False Eg:Feedback -> Positive/negative
   Time Series Analysis -> next year monsoon, Latituted.
9. Data Science -> {Statistics}

10. Maths -> calculator
    Python acts as calculator, so we use Phython in AI



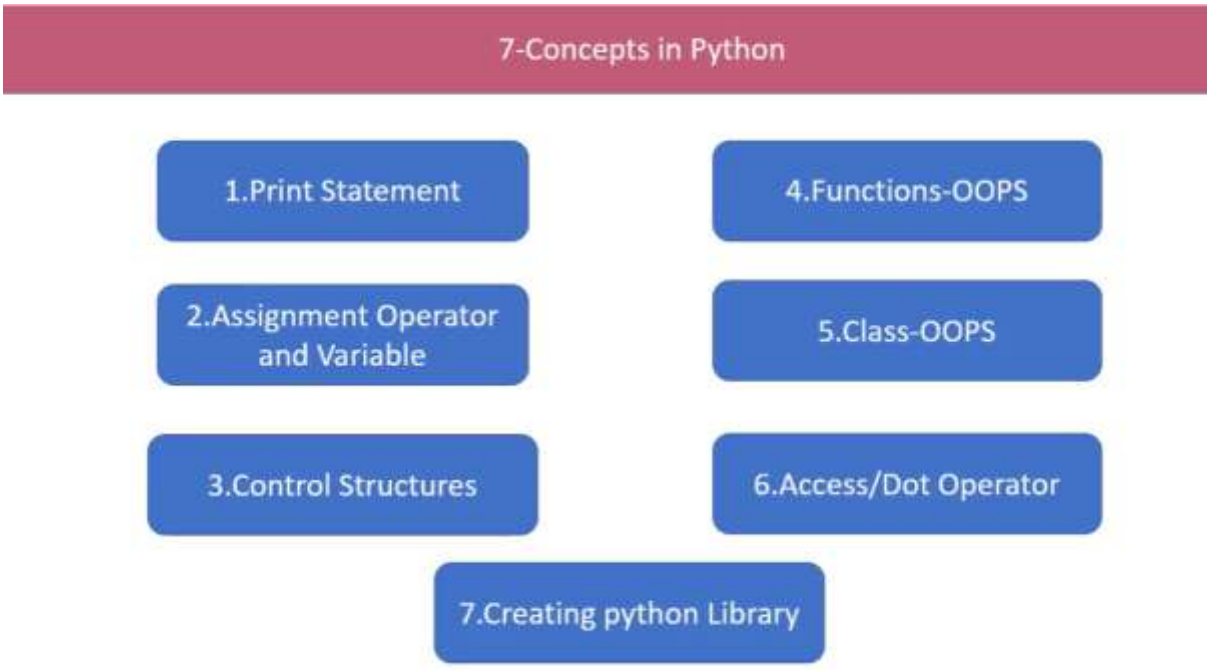
11. Phython
    Eg: browser -> opera, firefox, google -> Appstore
        Phython -> jupyter, spyder -> Anaconda

    Jupyter, spyder -> IDE (integerated development environment)



12. Tools:

13. Python Programming Language:



14. Print Statement:
    print() -> print("Rathiga") -> O/P -> Rathiga

15. Variable and assignment:

```
In [25]: num1=int(input("Enter the num1:"))
         Enter the num1:30

In [30]: num2=int(input("Enter the num2:"))
         Enter the num2:50

In [27]: add=num1+num2

In [28]: print(add)
         80
```

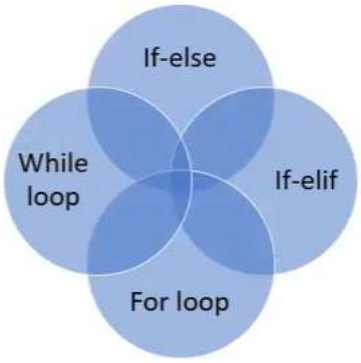
Initialize the variable -> num 1 , num 2
Datatype-> int
Runtime input get -> input
“ “ -> string

Python

```
# Get a string
name = input("Enter your name: ")
print("Hello, " + name + "!")

# Get an integer
try:
    age = int(input("Enter your age: "))
    print("You are", age, "years old.")
except ValueError:
    print("Invalid input. Please enter a number.")

# Get a float
try:
    price = float(input("Enter the price: "))
    print("The price is", price)
except ValueError:
     print("Invalid input. Please enter a number.")

#Get a char
character = input("Enter a character: ")
print("The character is", character)
```

16.
17. Control_Statement:

Control Structure



18. If statement:

```
]: age = int( input("Enter your age:"))
   if (age==18):
       print("AGE is valid")
```

```
Enter your age: 18
AGE is valid
```

19. If else statement:

```
age = int( input("Enter your age:"))
if (age>18):
    print("AGE is valid")
else:
    print("Age is not valid")
```

```
Enter your age: 15
Age is not valid
```

20. If-elif

```
age = int( input("Enter your age:"))
if (age==10):
    print("AGE is 10")
elif(age==12):
    print("Age is 12")
elif(age==60):
  print("Age is 60")
else:
    print("age is not idenfied else condition")
```

```
Enter your age: 89
age is not idenfied else condition
```

21. For Loop: (Multiple input set under one condition)

Example 1:

```
lists =[12,11,34,56]
for getlists in lists:
   print(getlists)
 #getlists -> temporary store data in the list
```

```
12
11
34
56
```

Example 2:

```
12
11
34
56
```

```
for age in lists:
 if(age==10):
    print("AGE is 10")
 elif(age==12):
    print("Age is 12")
 elif(age==60):
  print("Age is 60")
 else:
    print("age is not idenfied else condition")
```

```
Age is 12
age is not idenfied else condition
age is not idenfied else condition
age is not idenfied else condition
```

22. Range (num1,num2) -> Start, Stop

```
for num in range(1,10):
     print("Range", num)
```

```
Range 1
Range 2
Range 3
Range 4
Range 5
Range 6
Range 7
Range 8
Range 9
```

Range(num1.num2,num3) -> Start, stop, Step

```
for num in range(1,10,3):
    print("Range", num)
```

```
Range 1
Range 4
Range 7
```

23. OOPS – Function

Syntax:

def functionname():

Return

```
def addition(a, b):
    addition= a+b
    return addition
```

```
def substraction(a,b):
    sub=a-b
    return sub
```

```
def multiplication(a,b):
    mul=a*b
    return mul
```

Example:

Example with return statement:

```
def Ageclassify():
        if(age<18):
              print("Below 18 catagory")
              cat = "18 Catagory"
        elif(age<35):
             print("Below 35 catagory")
             cat = "35 Catagory"
        elif(age<59):
             print("Below 59 catagory")
             cat = "59 Catagory"
        else:
             print("Exception catagory")
             cat = "Exception cata"
        return cat #if use return save in memory otherwise return null
```

```
age = int(input("Enter your age"))
agecata =Ageclassify()#call the function with assigning variable
```

```
Enter your age 40
Below 59 catagory
```

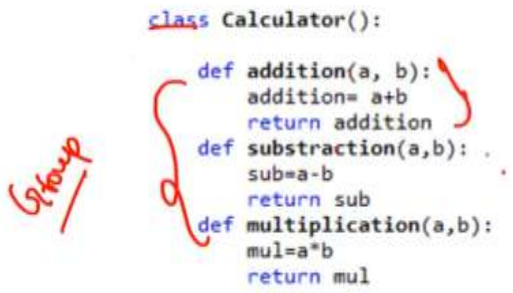
Example: With arguments:

```
def sub(num1,num2):
    sub=num1-num2
    return sub
```

```
sub(2,3)
```

```
-1
```

24. Class -> Group of Function



Example 1:

```
class multipleFunctions():
    def oddEven():
        num=int(input("Enter the number:"))
        if((num%2)==1):
            print("odd Number")
            message="odd Number"
        else:
            print("Even number")
            message="Even Number"
        return message
```

```
def BMI():
    BMI=int(input("Enter the BMI Index:"))
    if(BMI<18.5):
        print("Underweight")
        message="Underweight"
    elif(BMI<24.9):
        print("Normal")
        message="Normal"
    elif(BMI<29.9):
        print("Overweight")
        message="Overweight"
    else:
        print("Very Overweight")
        message="Very Overweight"
    return message
```

```
multipleFunctions.BMI()
```
- > Call the function (Classname.Functionname())

Output:

```
In [2]: multipleFunctions.BMI()

        Enter the BMI Index:25
        Overweight

Out[2]: 'Overweight'

In [3]: multipleFunctions.oddEven()

        Enter the number:56
        Even number

Out[3]: 'Even Number'
```

Example 2:

Want to use the class in another project/File -> need to import

Syntax: from filename import classname

```
: from multipleFunctions import multipleFunctions
  #from fileName import className

: multipleFunctions.BMI()
  Enter the BMI Index:
```

```
In [3]: from multipleFunctions import multipleFunctions
        #from fileName import className

In [4]: multipleFunctions.BMI()
        #className.FunctionName()

        Enter the BMI Index:34
        Very Overweight

Out[4]: 'Very Overweight'

In [5]: multipleFunctions.oddEven()
        #className.FunctionName()

        Enter the number:11
        odd Number

Out[5]: 'odd Number'
```