**MACHINE LEARNING**

**REPL**= Read Evaluate Print Loop

A string can be declared using “Abc” ‘Abc ’ “”” Abc“””

**USER INPUT**

input("Please enter your name\n")

**Assigning input to a variable**

name=input("Please enter your name\n")

print("Hello " + name)

OR

name=input("Please enter your name\n")

print("Hello " , name)

**Integer input**

age=int (input("Enter Age: "))

print(age)

**Conditional statements (Write elif instead of elseif**

n=int(input("Enter a number: "))

if n==10:

print("Thats cool")

elif n==30:

print("Thats hot")

else:

print("Thats neutral")

**Q) Input a basic salary. If the salary>=5000 hra=15% and da=150% of basic salary else hra=10% and da=110% of basic salary. Print gross salary**

basic\_salary=int(input("Enter basic salary= "))

if basic\_salary>=5000:

hra= (15/100)\*basic\_salary

da=(150/100)\*basic\_salary

else:

hra=(10/100)\*basic\_salary

da=(110/100)\*basic\_salary

gross\_salary=salary+hra+da

print("The gross salary is=" , gross\_salary)

**LOOPS**

**range( )**: Sets upper limit starting from 0

for x in range(5):

print(x)

**OUTPUT:**

0

1

2

3

4

for x in range(5,10):

print(x)

**OUTPUT:**

5

6

7

8

9

for x in range(5,10,2):

print(x)

**OUTPUT:**

5

7

9

**pass:** pass or ignore compilation errors

msg=input("Enter a message: ")

number=int(input("Enter no of times u want to print: "))

for x in range(number):

print(msg)

start=int(input("Enter start value: "))

end=int(input("Enter end value: "))

c=0

sum1=0

for x in range(start,end,1):

if x%2 !=0 :

c+=1

sum1=sum1+x

avg=sum1/c

print(avg)

**STRINGS**

msg="Python is Cool"

print(msg)

print(msg[0])

print(msg[:])

print(msg[:5])

print(msg[2:])

print(msg[-6])

print(msg\*2)

**OUTPUT**

Python is Cool

P

Python is Cool

Pytho

thon is Cool

s

Python is CoolPython is Cool

**Visit every character in a string**

msg="Python is Cool"

for x in msg:

print(x)

**Find a string(Case sensitive)**

msg="Python is Cool" msg="Python is Cool"

if "Cool" in msg: if "Cool" not in msg:

print("Found") print("Found")

else: else:

print("Not Found") print("Not Found")

Q) msg="Python-is-Cool"

newmsg=msg.replace("o","$")

print(newmsg)

print(newmsg.upper())

print(newmsg.lower())

print(newmsg.index('C'))

print(len(msg))

OUTPUT

Pyth$n-is-C$$l

PYTH$N-IS-C$$L

pyth$n-is-c$$l

10

14

Q) buddy="Lion"

position="KING"

place="Jungle"

print("{} is {} of {}".format(buddy,position,place))

print("%s is %s of %s"%(buddy,position,place))

OUTPUT

Lion is KING of Jungle

Lion is KING of Jungle

ENCAPSULATION

The practice of defining access to methods and variables to other classes

**JUPITER**

**LIST in PYTHON**

The list is a most versatile datatype available in python which can be written as a list of comma separated items between square brackets. Iportnt thing about a list is that item in a list **need not be of same data type**.

Example 1

items=["Apple","Orange",100,20.5]

**CONVERTING A LIST TO STRING**

msg= "-".join(items)

msg

**here “-“ is the separator between list items**

**.join function joins the items in the list converting to strings**

**Removing value from list**

msg= items.remove("Orange")

print(items)

**Finding out maximum minimum**

lottery=[100,200,300,400,500,800,600,700]

max(lottery)

min(lottery)

**Example**

cartoons=["Mickey","Donald","Goofy"]

**#update List**

cartoons[1]="Baloo"

**# Removing value from list**

Cartoons.remove(“Mickey”)

**#Deleting an item at specific index**

del cartoons[1]

**#Add values at end**

cartoons.append("Mowgli")

**#Finding out length of list**

len(cartoons)

**#Adding another list at the end of one list**

life=["Freedom","Forest","Water"]

cartoons.extend(life)

**#Inserting value at specific index**

cartoons.insert(1,"intermediate")

**#Finding index number of any item in list**

cartoons.index(“Goofy”)

**#For reversing the list**

Cartoons.reverse()

**PACKAGE IN PYTHON**

import random

num=random.randint(1,10)

**This prints a random integer**

reward=["Teddy","Phone","Money"]

random.choice(reward)

**This prints random word from the list**

**TUPLES**

days=("Sun","Mon","Tue","Wed","Sun")

**Convert tuple to list for editing Convert list to tuple**

editable=list(days) editable=tuple(days)

**SETS In Python**

days=["Sun","Mon","Tue","Wed","Thu","Fri","Sat"]

set\_days=set(days)

set\_days

**#inserting values in sets**

set\_days.add("HappyDay")

**#Removing Values**

set\_days.discard("Sun")

**#Union in set**

channel1={"Star","Color","Zee"}

channel2={"HBO","UTV"}

all\_channels=channel1 | channel2

**#Intersection in set**

channel1={"Star","Color","Zee"}

channel2={"HBO","Color","UTV"}

all\_channels=channel1 & channel2

**DICTIONARY**

• lang={"eng":"english","frn":"french","ben":"bengali","hin":"hindi","ger":"german"}

print(lang)

• lang["hin"]

• all\_k=lang.keys()

• for key in lang:

print("The key is " , key , " and the value is " , lang[key])

**OR**

for k,v in lang.items():

print(k,v)

**ROCK PAPER SCISSOR game**

option=["Rock","Paper","Scissor"]

comp=random.choice(option)

inp=input("Enter a choice please: ")

print("Computer entered " , comp)

print("User entered " , inp)

dict={"Rock":{"Rock":"This game is draw","Paper":"Paper won the game","Scissor":"Rock won the game"},"Paper":{"Paper":"This game is draw","Scissor":"Scissor won the game","Rock":"Paper won the game"},"Scissor":{"Scissor":"This game is draw","Rock":"Rock won the game","Paper":"Scissor won the game"}}

dict[comp][inp]

name=input("Enter your name: ")

date=int(input("Enter your birth date : "))

month=input("Enter your birth month : ")

if date>=1 and date<=31:

print("Hey " ,name , "..You were born on " , month ,"-" , date)

Aries={"Mar":range(19,31),"Apr":range(1,21)}

Taurus={"Apr":range(20,31),"May":range(1,20)}

Gemini={"May":range(21,31),"Jun":range(1,20)}

Cancer={"Jun":range(21,31),"Jul":range(1,22)}

Leo={"Jul":range(23,31),"Aug":range(1,22)}

Virgo={"Aug":range(23,31),"Sep":range(1,22)}

Libra={"Sep":range(23,31),"Oct":range(1,22)}

Scorpio={"Oct":range(23,31),"Nov":range(1,21)}

Sagittarius={"Nov":range(22,31),"Dec":range(1,21)}

Capricon={"Dec":range(22,31),"Jan":range(1,19)}

Aquarius={"Jan":range(20,31),"Feb":range(1,21)}

Pisces={"Feb":range(22,31),"Mar":range(1,22)}

if date in Aries[month]:

print("Aries")

elif date in Taurus[month]:

print("Taurus")

elif date in Gemini[month]:

print("Gemini")

elif date in Cancer[month]:

print("Cancer")

elif date in Leo[month]:

print("Leo")

elif date in Virgo[month]:

print("Virgo")

elif date in Libra[month]:

print("Libra")

elif date in Scorpio[month]:

print("Scorpio")

elif date in Sagittarius[month]:

print("Sagittarius")

elif date in Capricon[month]:

print("Capricon")

elif date in Aquarius[month]:

print("Aquarius")

elif date in Pisces[month]:

print("Pisces")

else:

print("Sorry")

else:

print("Please enter a valid date")