FIRST LAB INTERNAL EXAM TEST OF MACHINE LEARNNING:--

In [101]:

```
#QUESTION-6:-

while(True):
    num=float(input("Enter your Scoure= "))
# num=float(num)
    if num>=0.9 and num<1.0:
        print("Grade= A ")
    elif num>=0.8 and num<1.0:
        print("Grade= B ")
    elif num>=0.7 and num<1.0:
        print("Grade= C ")
    elif num>=0.6 and num<1.0:
        print("Grade= D ")
    elif num<0.6 and num<1.0:
        print("Grade= F")
    else:
        print("Enter Scoure  is not vailid for Grade")
        break
```

```
Enter your Scoure= 0.9
Grade= A
Enter your Scoure= 0.6
Grade= D
Enter your Scoure= 0.8
Grade= B
Enter your Scoure= 0.7
Grade= C
Enter your Scoure= 0.5
Grade= F
Enter your Scoure= 5
Enter Scoure  is not vailid for Grade
```

question.7:-

In [104]:

```
while(True):
    num=int(input("Enter your number "))
    if(num%2==0):
        print("even")
    else:
        print("odd")
        break
```

```
Enter your number 4
even
Enter your number 2
even
Enter your number 5
odd
```

Question.8:-

In [105]:

```
num=int(input("Enter your number= "))
n1=0
n2=1
print(n1)
print(n2)
for i in range(0,num):
    sum=n1+n2
    n1=n2
    n2=sum
    print(sum)
```

```
Enter your number= 5
0
1
1
2
3
5
8
```

question.9:-

In [109]:

```
# Write a program to repeatedly check for the largest number until the user enter
list=[]
for i in range(0,5):
    num=int(input("Enter your number "))
    list.append(num)
print(list)
i=0
for i in range (i,len(list)):
    for j in range(i+1,len(list)):
        if(list[i]<list[j]):
            temp=list[i]
            list[i]=list[j]
            list[j]=temp
print("the largest number is =",list[0])
i=0
for i in range (i,len(list)):
    for j in range(i+1,len(list)):
        if(list[i]>list[j]):
            temp=list[i]
            list[i]=list[j]
            list[j]=temp
print("the smallest number is =",list[0])
```

```
Enter your number 45
Enter your number 65
Enter your number 98
Enter your number 55
Enter your number 22
[45, 65, 98, 55, 22]
the largest number is = 98
the smallest number is = 22
```

question.10:-

In [110]:

```
# Explain the need for continue and break statements. Write a program to check wh
num=int(input("Enter your number="))
count=0
for i in range(2,num):
    if (num%i==0):
        count=1
        print("the number is not prime number=",num)
        break
if(count==0):
    print("the number is prime number",num)
```

```
Enter your number=5
the number is prime number 5
```

Question.11

In [112]:

```
# 11. Describe the need for catching exceptions using try and except statements
num=int(input("Enter your number "))
try:
    z=0
    res=num/z
    print("there is no any exception",res)
except:
    print("the exception is zero by division ")
```

```
Enter your number 5
the exception is zero by division
```

question.12

In [122]:

```
# use of absolute function abs()
num=-23
print(abs(num))
# use of max function max()
list=[1,23,93,8]

add=max(list)
print(add)

#use of function min()
sum=min(list)
print(sum)

#use of function len()
list1=[1,3,4,5,6,7,8]
sum1=len(list1)
print(sum1)
#use of function pow()
num=pow(4,3)
num

#use of function divmod()

num1=divmod(4,2)
print(num1)
```

```
23
93
1
7
(2, 0)
```

question.13

In [123]:

```
import cmath
print("i am asumimg a=1, b=5,c=6")
a=1
b=5
c=6
print("the quaderatic equation is= ax**2 + bx + c=0 ")
d=(b**2)-(4*a*c)
sol1=(-b-cmath.sqrt(d))/(2*a)
sol2=(-b+cmath.sqrt(d))/(2*a)

print("the solution is (-b-sqrt 4ac)/2a =",sol1)
print("the solution is (-b+sqrt 4ac)/2a =",sol2)
```

```
i am asumimg a=1, b=5,c=6
the quaderatic equation is= ax**2 + bx + c=0
the solution is (-b-sqrt 4ac)/2a = (-3+0j)
the solution is (-b+sqrt 4ac)/2a = (-2+0j)
```

question.14

In [125]:

```
# Find the area and perimeter of a circle using functions. Prompt the user for ir
num=int(input("Enter your radius value "))
res=(num*num)*3.14
sum=2*(num*3.14)
print("the area of the circle is=",res)
print("the perimeter of the circle is=",sum)
```

```
Enter your radius value 45
the area of the circle is= 6358.5
the perimeter of the circle is= 282.6
```

question.15:-

In [126]:

```
# 16. Write a program to print the sum of the following series 1 + 1/2 + 1/3 +. …
num=int(input("Enter your number "))
sum=0
for i in range(1,num+1):
    sum=sum+(1/i)
print("the sum of the series is=",round(sum,2))
```

```
Enter your number 5
the sum of the series is= 2.28
```

question.16:-

In [97]:

```
import pandas as pd
import numpy as np
data=pd.read_csv(r"experiment-1.csv")
print(data)
```

```
    Name    Hair    Height    Weight Location Class
0  Sunita  blonde  average     light       no   yes
1    Anit  blonde     tall   average      yes    no
2  Kavita   brown    short   average      yes    no
3  Sushma  blonde    short   average       no   yes
4  Xavier     red  average     heavy       no   yes
5  Balaji   brown     tall     heavy       no    no
6  Ramesh   brown  average     heavy       no    no
7  Swetha  blonde    short     light      yes    no
```

In [73]:

```
t=np.array(data)[:,:-1]
t
```

Out[73]:

```
array([['Sunita', 'blonde', 'average', 'light', 'no'],
       ['Anit', 'blonde', 'tall', 'average', 'yes'],
       ['Kavita', 'brown', 'short', ' average', 'yes'],
       ['Sushma', 'blonde', 'short', 'average', 'no'],
       ['Xavier', 'red', 'average', 'heavy', 'no'],
       ['Balaji', 'brown', 'tall', 'heavy', 'no'],
       ['Ramesh', 'brown', 'average', 'heavy', 'no'],
       ['Swetha', 'blonde', 'short', 'light', 'yes']], dtype=object)
```

In [74]:

```
last=np.array(data)[:,-1]
last
```

Out[74]:

```
array(['yes', 'no', 'no', 'yes', 'yes', 'no', 'no', 'no'], dtype=object)
```

In [75]:

```
def fun(c,last):
    for i,val in enumerate(last):
        if val=="yes":
            hypothesis=c[i].copy()
        break
    for i,val in enumerate(c):
        if last[i]=="yes":
            for x in range(len(hypothesis)):
                if val[x]!=hypothesis[x]:
                     hypothesis[x]="?"
                else:
                    pass
    return hypothesis
print("the final hypothesis is=",fun(t,last))
```

```
the final hypothesis is= ['?' '?' '?' '?' 'no']
```

In [78]:

```
import pandas as pd
import numpy as np
d=pd.read_csv(r"ahmad.csv")
print(d)
```

```
     sky    Temp Humidity   Wind  Water Forecast EnjoySport
0   Sunny   Warm   Normal  Strong  Warm     Same        yes
1  sunny    Warm     High  Strong  Warm     Same        yes
2   Rainy  cold      High  Strong  Warm   Change         no
3   Sunny   Warm     High  Strong  Cool   Change        yes
```

In [79]:

```
a=np.array(d)[:,:-1]
print(a)
```

```
[['Sunny' 'Warm' 'Normal' 'Strong' 'Warm' 'Same']
 ['sunny ' 'Warm' 'High' 'Strong' 'Warm' 'Same']
 ['Rainy' 'cold ' 'High' 'Strong' 'Warm' 'Change']
 ['Sunny' 'Warm' 'High' 'Strong' 'Cool' 'Change']]
```

In [80]:

```
t=np.array(d)[:,-1]
t
```

Out[80]:

```
array(['yes', 'yes', 'no', 'yes'], dtype=object)
```

In [82]:

```

def fun(c,t):
    for i ,val in enumerate(t):

        if val=="yes":

            hy=c[i].copy()

        break
    for i,val in enumerate(c):
        if t[i]=="yes":
            for x in range(len(hy)):
                if val[x]!=hy[x]:
                    hy[x]="?"
                else:
                    pass
    return hy

print("the final hypothesis is =",fun(a,t))
```

```
the final hypothesis is = ['?' 'Warm' '?' 'Strong' '?' '?']
```

In [85]:

```
import pandas as pd
import numpy as np
rat=pd.read_csv(r"question-2.csv")
print(rat)
```

```
   COLOUR TOUGHNESS FUNGS APPEARANCE POISONOUS
0   GREEN      HARD    NO   WRINKELD       YES
1   GREEN      HARD   YES     SMOOTH        NO
2   BROWN      SOFT    NO   WRINKELD        NO
3  ORANGE      HARD    NO   WRINKLED       YES
4   GREEN      SOFT   YES     SMOOTH       YES
5   GREEN      HARD   YES   WRINKLED       YES
6  ORANGE      HARD    NO   WRINKLED       YES
```

In [93]:

```
ayub=np.array(rat)[:,:-1]
ayub
```

Out[93]:

```
array([['GREEN', 'HARD', 'NO', 'WRINKELD'],
       ['GREEN', 'HARD', 'YES', 'SMOOTH'],
       ['BROWN', 'SOFT', 'NO', 'WRINKELD'],
       ['ORANGE', 'HARD', 'NO', 'WRINKLED'],
       ['GREEN', 'SOFT', 'YES', 'SMOOTH'],
       ['GREEN', 'HARD', 'YES', 'WRINKLED'],
       ['ORANGE', 'HARD', 'NO', 'WRINKLED']], dtype=object)
```

In [91]:

```
ayub1=np.array(rat)[:,-1]
ayub1
```

Out[91]:

```
array(['YES', 'NO', 'NO', 'YES', 'YES', 'YES', 'YES'], dtype=object)
```

In [95]:

```
def fun(c,ayub1):
    for i,val in enumerate(ayub1):
        if val=="YES":
            hypo=c[i].copy()
        break
    for i,val in enumerate(c):
        if ayub1[i]=="YES":
            for x in range(len(hypo)):
                if val[x]!=hypo[x]:
                    hypo[x]="?"
                else:
                    pass
    return hypo
print("the final hypothesis",fun(ayub,ayub1))
```

```
the final hypothesis ['?' '?' '?' '?']
```

In [ ]: