PRELAB

1.

1a)Code & Output

```
In [1]: year=int(input("Enter a year: "))

        if (year%4==0 and year%100!=0) or year%400==0:
            print(year, "is a leap year")
        else:
            print(year, "is not a leap year")
```

```
Enter a year: 2000
2000 is a leap year
```

1b)Code & Output

```
In [2]: x=int(input("Enter a multiplication number:"))

        for i in range(1, 13):
            print(x,"X",i,"=",x*i)
```

```
Enter a multiplication number:10
10 X 1 = 10
10 X 2 = 20
10 X 3 = 30
10 X 4 = 40
10 X 5 = 50
10 X 6 = 60
10 X 7 = 70
10 X 8 = 80
10 X 9 = 90
10 X 10 = 100
10 X 11 = 110
10 X 12 = 120
```

1c) Code & Output

```
In [3]: x=int(input("Enter a number:"))

        if x==1:
            print(x,"is not a prime number")
        else:
            for i in range(2,x):
                if x%i==0:
                    print(x,"is not a prime number")
                    break
            else:
                print(x,"is a prime number")
```

```
Enter a number:11
11 is a prime number
```

2) Code&Output

```
def func(x):
    switcher = {
        1: str.upper(),
        2: str.lower(),
        3: str.isupper(),
        4: str.islower(),
        5: str.replace('INTELLIgence','Neural Network'),
        6: str.startswith('T'),
        7: str.endswith('e'),
        8: str.capitalize(),
        9: str.swapcase()
    }
    return switcher.get(x,"Invalid Number")

str=input("Enter a string: ")

while True:
    print("1.Convert the input string into UpperCase")
    print("2.Convert the input string into LowerCase")
    print("3.Check whether all the character of the input string are in UpperCase")
    print("4.Check whether all the character of the input string are in LowerCase")
    print("5.Replace string 'INTELLIgence' by 'Neural Network'")
    print("6.Check whther the given string starts with 'T'")
    print("7.Check whether the given string ends with 'e'")
    print("8.Convert the first letter of the input string into caital letter")
    print("9.Convert the LowerCase characters to UpperCase and ViceVersa")
    print("10.Exit")
    print("-------------------")
    x=int(input("Choose any Option: "))
    if(x==10):
        break
    print (func(x))
```

```
Enter a string: aRTificial INTELLIgence
1.Convert the input string into UpperCase
2.Convert the input string into LowerCase
3.Check whether all the character of the input string are in UpperCase
4.Check whether all the character of the input string are in LowerCase
5.Replace string 'INTELLIgence' by 'Neural Network'
6.Check whther the given string starts with 'T'
7.Check whether the given string ends with 'e'
8.Convert the first letter of the input string into caital letter
9.Convert the LowerCase characters to UpperCase and ViceVersa
10.Exit
-------------------
Choose any Option: 1
ARTIFICIAL INTELLIGENCE
1.Convert the input string into UpperCase
2.Convert the input string into LowerCase
3.Check whether all the character of the input string are in UpperCase
4.Check whether all the character of the input string are in LowerCase
5.Replace string 'INTELLIgence' by 'Neural Network'
6.Check whther the given string starts with 'T'
7.Check whether the given string ends with 'e'
8.Convert the first letter of the input string into caital letter
9.Convert the LowerCase characters to UpperCase and ViceVersa
10.Exit
-------------------
Choose any Option: 10
```

INLAB

1) Code & Output

In [4]:

```
print("Hi I am student advisor chat Bot.\nMay I know your name?")
str=input();
print("Thank You", str);
print("I am here to explore you about the core courses required for the specialization's offered in KL University. Cse Dept")
dic1={"Global certication":"Professional Scrum Master","Core Course in 1st Sem":"Software Engneering"}
dic2={"Global certication":"None","Core Course in 1st Sem":"None"}
dic3={"Global certication":"Linux Essential(010-160)","Core Course in 1st Sem":"Operating Systems"}
dic4={"Global certication":"Unity Developer Advance Certification","Core Course in 1st Sem":"Enterprise Programming"}
dic5={"Global certication":"ETHEREUM Developer Advance Certification","Core Course in 1st Sem":"Computer Networks"}
dic6={"Global certication":"PCAP|CertifiedAssociatePythonProgramming","Core Course in 1st Sem":"AI & Mathematical Programming
dic7={"Global certication":"C100DEV:MangoDB certified DeveloperAssociate","Core Course in 1st Sem":"Data Base Managements Sys
dic8={"Global certication":"None","Core Course in 1st Sem":"None"}

def func(x):
    switcher = {
        1: dic1,
        2: dic2,
        3: dic3,
        4: dic4,
        5: dic5,
        6: dic6,
        7: dic7,
        8: dic8
    }
    return switcher.get(x,False);

while(True):
    print("1. Software Modelling & DevOps\n2. Internet of Things\n3. Cloud & Edge Computing\n4. Graphics, Gaming &UX Design")
    print("5. Cyber Security & Blockchain Technology\n6. Artificial Intelligence & Intelligence Process Automation")
    print("7. Data Science & Big Data Analytics\n8. Computer Communications\n9.Exit\n");
    print("These are the specialization's offered by KL CSE.Choose any specialization.(select any option)")
    x=int(input("Choose any option: "));
    if(func(x)==False):
        break;
    else:
        print(func(x));
```

```
Hi I am student advisor chat Bot.
May I know your name?
radha
Thank You radha
I am here to explore you about the core courses required for the specialization's offered in KL University. Cse Dept
1. Software Modelling & DevOps
2. Internet of Things
3. Cloud & Edge Computing
4. Graphics, Gaming &UX Design
5. Cyber Security & Blockchain Technology
6. Artificial Intelligence & Intelligence Process Automation
7. Data Science & Big Data Analytics
8. Computer Communications
9.Exit

These are the specialization's offered by KL CSE.Choose any specialization.(select any option)
Choose any option: 1
{'Global certication': 'Professional Scrum Master', 'Core Course in 1st Sem': 'Software Engneering'}
1. Software Modelling & DevOps
2. Internet of Things
3. Cloud & Edge Computing
4. Graphics, Gaming &UX Design
5. Cyber Security & Blockchain Technology
6. Artificial Intelligence & Intelligence Process Automation
7. Data Science & Big Data Analytics
8. Computer Communications
9.Exit

These are the specialization's offered by KL CSE.Choose any specialization.(select any option)
Choose any option: 9
```

POSTLAB

1) Code & Output

In [1]:
```
from datetime import date

today=date.today()

print("Hello I am Chatty Here to help You")
print("May I know your good name?")
str=input()
print("Hello",str)
choice=input("Do you want to know your age in years,days,hours,minutes,sec you live till now?")
if(choice.lower()=="yes" or choice.lower() =="y"):
    day=int(input("Date: "))
    month=int(input("Month: "))
    year=int(input("Year: "))
    dob=date(year,month,day)
    now=date.today()
    if(today.month<dob.month):
        print(today.year-dob.year-1,"years")
    elif(today.month==dob.month and today.day<dob.day):
        print(today.year-dob.year-1,"years")
    else:
        print(today.year-dob.year,"years")
    diff=now-dob
    print(diff.days,"days")
    print(diff.days*24,"hours")
    print(diff.days*24*60,"minutes")
    print(diff.days*24*60*60,"seconds")
    color=input("Can I know your favourite Color")
    if(color.upper()=="BLUE"):
        print("Blue is the color of sea and sky. It is often associated with depth and stability")
    if(color.upper()=="RED"):
        print("Red is the color of blood")
    if(color.upper()=="GREEN"):
        print("Green is the color of nature")
    if(color.upper()=="PINK"):
        print("Pink, a delicate color that means sweet,charming")
    print("It's time to say bye")
    print("I hope you enjoy well")
else:
    print("Byee")
```

```
Hello I am Chatty Here to help You
May I know your good name?
radha
Hello radha
Do you want to know your age in years,days,hours,minutes,sec you live till now?yes
Date: 20
Month: 10
Year: 2002
17 years
6499 days
155976 hours
9358560 minutes
561513600 seconds
Can I know your favourite Colorpink
Pink, a delicate color that means sweet,charming
It's time to say bye
I hope you enjoy well
```

2) Code & Output

In [2]:
```
x=list(map(int,input().split()))
r=x[0]
c=x[1]

mi=list()

for i in range(r):
    a=list(map(int,input().split()))
    mi.append(min(a))

print("Max=",max(mi))
```

```
2 2
1 2
2 3
Max= 2
```