In [1]:
```
# Database connectivity with backend (insert and display table records)
```

In [44]:
```
# Program to demonstrate GUI programming using tkinter.

from tkinter import *

window=Tk()
window.geometry("500x500")
window.title("Registration Form")

l1=Label(window,text="Registration Form",fg="red",bg="yellow",font="20")
l1.grid(row=1,column=2,pady=20)

l2=Label(window,text="Name : ")
l2.grid(row=2,column=1,padx=20 ,pady=20)


t2=Entry(window,width="50")
t2.grid(row=2,column=2,padx=50)

l3=Label(window,text="Email : ")
l3.grid(row=3,column=1,padx=20,pady=20)


t3=Entry(window,width="50")
t3.grid(row=3,column=2,padx=50)

l4=Label(window,text="Gender : ")
l4.grid(row=4,column=1)

r1=Radiobutton(window,text="Male")
r1.grid(row=4,column=2)
r2=Radiobutton(window,text="Female")
r2.grid(row=4,column=3,padx="5",pady=20)

window.mainloop()
```

In [3]:
```
# Program for data structure algorithm using python for sorting.

a=[]
size=int(input("Enter size of array : "))
for i in range(0,size):
    a.append(int(input()))
print("Unsorted : ",a)
for i in range(0,len(a)):
    for j in range(0,len(a)-1):
        if(a[j]>a[j+1]):
            temp=a[j]
            a[j]=a[j+1]
            a[j+1]=temp
print("Sorted : ",a)
```

```
Enter size of array : 5
1
2
3
4
5
Unsorted :  [1, 2, 3, 4, 5]
Sorted :  [1, 2, 3, 4, 5]
```

In [4]:
```python
# Program to ding out a factorial of given number.

num=int(input("Enter Number : "))
fact=1
for i in range(1,num+1):
    fact = fact *i
print(fact)
```

```
Enter Number : 5
120
```

In [8]:
```python
# Python program for linear search.

a=[]
size=int(input("Enter size of array : "))
for i in range(0,size):
    a.append(int(input()))

ele=int(input("Enter element to search : "))
f=0
for i in range(0,len(a)):
    if(ele==a[i]):
        f=1
        print("ELement found at : ",i)
        break

if f==0:
    print("ELement not found!!!")
```

```
Enter size of array : 3
1
2
3
Enter element to search : 90
ELement not found!!!
```

In [13]:
```python
# Program to demonstrate class , object , inheritance.

class demo:
    name=""
    def greet(self,name):
        print("hello",name)

class demo2(demo):
    def show(self):
        print("method of child class")

d1=demo2()
d1.greet("aditya")
d1.show()
```

```
hello aditya
method of child class
```

In [23]:
```python
# Use of DataFrame method and use of .csv files.

import pandas as pd
data=pd.read_csv("student.csv")
print(data)
print(data.head(2))
print(data.tail(2))
print(data.info())
print(data.describe())
```

```
      name  roll
0   aditya   122
1  kalpesh    36
2    lalit   124
3   kushal    22
4   yuvraj   180
      name  roll
0   aditya   122
1  kalpesh    36
     name  roll
3  kushal    22
4  yuvraj   180
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 5 entries, 0 to 4
Data columns (total 2 columns):
 #   Column  Non-Null Count  Dtype 
---  ------  --------------  ----- 
 0   name    5 non-null      object
 1   roll    5 non-null      int64 
dtypes: int64(1), object(1)
memory usage: 208.0+ bytes
None
            roll
count    5.000000
mean    96.800000
std     66.311387
min     22.000000
25%     36.000000
50%    122.000000
75%    124.000000
max    180.000000
```

In [27]:
```python
# Create a file, write in to file , read a file , append the file.

# 1) Create and Write in to File :

fn=input("Enter filename : ")
file1=open(fn,"w")
file1.write("File created ")
file1.close()

# 2) Read a File :

fn=input("Enter filename : ")
file1=open(fn,"r")
print(file1.read())
file1.close()
```

```
# 3) Append the File :

fn=input("Enter filename : ")
file1=open(fn,"a")
file1.write("Content Updated ")
file1.close()
```

```
Enter filename : new.txt
Enter filename : new.txt
File created
Enter filename : new.txt
```

In [44]:
```
# List and Dictionary with its important function (minimum 3).

# List :
list1=[1,20,3,4]
print(list1)
list1.append([20])
print(list1)
list1.extend([20])
print(list1)
list1.insert(1,50)
print(list1)
print(list1.count(20))
list1.clear()
print(list1)

# Dictionary :
dict1={
    "name":"aditya",
    "roll":122
}

print(dict1.keys())
print(dict1.values())
print(dict1.items())
print(dict1.popitem())
print(dict1)
print(dict1.pop("name"))
dict1.clear()
print(dict1)
```

```
[1, 20, 3, 4]
[1, 20, 3, 4, [20]]
[1, 20, 3, 4, [20], 20]
[1, 50, 20, 3, 4, [20], 20]
2
[]
dict_keys(['name', 'roll'])
dict_values(['aditya', 122])
dict_items([('name', 'aditya'), ('roll', 122)])
('roll', 122)
{'name': 'aditya'}
aditya
{}
```

In [45]:
```
# Program to find out odd and even number up to given number.

num=int(input("Enter number : "))
even=[]
```

```
odd=[]
for i in range(1,num+1):
    if(i%2==0):
        even.append(i)
    else :
        odd.append(i)

print("Even : ",even)
print("Odd : ",odd)
```

```
Enter number : 10
Even :  [2, 4, 6, 8, 10]
Odd :  [1, 3, 5, 7, 9]
```

In [47]:
```
# Program to find out the given number is prime of not.

num=int(input("Enter number : "))
isPrime=True
for i in range(2,num):
    if(num%i==0):
        isPrime=False

if isPrime==True:
    print("Number is Prime")
else :
    print("Number is not Prime")
```

```
Enter number : 7
Number is Prime
```

In [51]:
```
# Program to find out the given number is Palindrome or not.

num=int(input("Enter number : "))
temp=num
s=0
while(num>0):
    r=num%10
    s=s*10+r
    num=num//10
if s==temp:
    print("Number is Palindrome")
else :
    print("Number is not Palindrome")
```

```
Enter number : 123
Number is not Palindrome
```

In [62]:
```
# Program to find out the given number is Palindrome or not.

string=input("Enter a String : ")
rev=""
for i in string:
    rev=i+rev

if string==rev:
    print("String is Palindrome")
else:
    print("String is not Palindrome")
```

```
Enter a String : aditya
a
d
i
t
y
a
String is not Palindrome
```

In [65]:
```python
# Program to find out the given number is Armstrong or not.

num=int(input("Enter number : "))
temp=num
s=0
while(num>0):
    r=num%10
    s=s+(r*r*r)
    num=num//10
if s==temp:
    print("Number is Armstrong")
else :
    print("Number is not Armstrong")
```

```
Enter number : 153
Number is Armstrong
```

In [66]:
```python
# Program to Calculate the addition of odd number up to given number.

num=int(input("Enter number : "))
even=[]
for i in range(1,num+1):
    if(i%2==0):
        even.append(i)

print("Addition : ",sum(even))
```

```
Enter number : 10
Addition :  30
```

In [67]:
```python
# Program to Calculate the addition of odd number up to given number.

num=int(input("Enter number : "))
odd=[]
for i in range(1,num+1):
    if(i%2!=0):
        odd.append(i)

print("Addition : ",sum(odd))
```

```
Enter number : 10
Addition :  25
```

In [68]:
```python
# Program to find out factorial using recursion.

def fact(n):
    if(n==1):
        return 1
    return n*fact(n-1)
num=int(input("Enter a Number : "))
print(fact(num))
```

```
Enter a Number : 5
120
```

In [ ]:

In [ ]: