IBM ASSIGNMENT 1
AARTHI SURESH KUMAR
195001003

1.

```
l = [34,2,12,4,6]
ele=7
pos=3
l.insert(pos-1, ele)
print("Inserting element 7 at position 3 : ")
print(l)
l.remove(ele)
print("Deleting first occurence of element 7 :")
print(l)
l.append(ele)
print("Appending element 7 : ")
print(l)
l.sort()
print("Sort the list")
print(l)
l.pop()
print("Pop the last element from the list")
print(l)
print("Reverse list")
l.reverse()
print(l)
```

```
Inserting element 7 at position 3 :
[34, 2, 7, 12, 4, 6]
Deleting first occurence of element 7 :
[34, 2, 12, 4, 6]
Appending element 7 :
[34, 2, 12, 4, 6, 7]
Sort the list
[2, 4, 6, 7, 12, 34]
Pop the last element from the list
[2, 4, 6, 7, 12]
Reverse list
[12, 7, 6, 4, 2]
>
```

CALCULATOR:

```
a = int(input("Enter operand 1: "))
b = int(input("Enter operand 2: "))
op = str(input("Enter operation : "))
if op=="+":
    res = a+b
elif op=="-":
    res = a-b
elif op=="*":
    res = a*b
elif op=="/":
    res=a/b

print("Result :"+str(res))
```

```
Enter operand 1: 40
Enter operand 2: 32
Enter operation : +
Result :72
```

```
str1 = "HELLO"
str2 = "IBM"
res = str1+str2
print('str1= ', str1)
print("str2=", str2)
print("str1+str2=", res)
print("slice str1[3:4]", str1[3:5])
print("Reverse str2")
print(str2[::-1])
```

```
str1=  HELLO
str2= IBM
str1+str2= HELLOIBM
slice str1[3:4] LO
Reverse str2
MBI
>
```

Why is Python a popular programming language?

1. Python is easy to learn

Python uses a simplified syntax with an emphasis on natural language, for a much easier learning curve for beginners. And, because Python is free to use and is supported by an extremely large ecosystem of libraries and packages, it's often the first-choice language for new developers.

2. Python has an active, supportive community

No programmer is an island; they depend on essential documentation and support so that when they encounter unexpected issues or new problems to solve, they have somewhere to go to find answers. The Python community includes developers of all skill levels and provides easy access to documentation, guides, tutorials, and more.

3. Python is flexible

Python is often described as a general-purpose programming language. This means that unlike domain-specific languages which are designed only for certain application types, Python may be used to develop nearly any kind of application in any industry or field.

Many top businesses and software companies depend on Python including Facebook, Google, Netflix, Instagram, and others. Supported by a range of frameworks and libraries, there's essentially no coding job that Python can't handle.

4. Python offers versatile web-development solutions

Using available open-source libraries, Python developers can get their web applications up and running quickly and easily.

And while other languages, such as Java or .NET, might offer increased performance, the speed and developer experience provided by Python makes it an obvious choice for those who need a quick solution that they can depend on. At the same time, Python's variety of available resources offers a unique opportunity to integrate other application types into websites.

5. Python is well suited to data science and analytics

Python's ease of use, support, and flexibility have made it an essential tool for those who work with machine learning, cloud computing, and big data.

Python is particularly effective for analysing and organising data sets. Its out-of-the-box data analysis capabilities, combined with its growing ecosystem of data-focused frameworks, help ensure that Python remains a popular data-science programming solution.

6. Python is efficient, fast, and reliable

Occasionally, a developer that specializes in a different programming language might ask "Why is Python slow?" And yes, compared to some other languages, such as Java, C#, Go, JavaScript, or C++, Python often has a slightly slower execution speed. However, in today's world, development time is much more important than computer run time. And in terms of time-to-market, Python simply cannot be beaten.

Likewise, Python is efficient and reliable, allowing developers to create powerful applications with a minimum of effort. Completing coding projects is easy rather than time-consuming, and the results are able to stand toe to toe with applications created using more-demanding languages.

7. Python is widely used with IoT Technology

As wireless access becomes ever-more ubiquitous, the internet of things (IoT) continues to grow. These small, internet-connected devices often allow users to make small adjustments to their code, customising their performance to fit specific needs. Many of these devices support either Python or Micropython (a scaled down version of the programming language designed for simpler devices).

8. Python empowers custom automation

Extended by its library of plugins, Python has become an automation standard across industries. In fact, even when working with other programming languages, developers will often write their automation scripts using Python.

What are the other frameworks that can be used along with Python?

- Bottle.
- Flask.
- Django.

- Web2py.
- AIOHTTP.
- CherryPy.
- Dash.
- Falcon.

What is the full form of WSGI?

The **Web Server Gateway Interface** (WSGI, pronounced whiskey or WIZ-ghee) is a simple calling convention for web servers to forward requests to web applications or frameworks written in the Python programming languag