```
#Question no 1:- Create one variable containing following type of data:
#(i) string
#(ii) list
#(iii) float
#(iv) tuple

#Answer :- (i)

s = "somnath giri"
type(s)
```

```
str
```

```
#Answer :- (ii)

l = [1,2,3,4,5,6]
type(l)
```

```
list
```

```
#Answer :- (iii)

f = 2.693
type(f)
```

```
float
```

```
#Answer :- (iv)

t = (1,2,3,4,5,6)
type(t)
```

```
tuple
```

```
#Questio no 2:- Given are some following variables containing data:
#(i) var1 = ' '
#(ii) var2 = '[ DS , ML , Python]'
#(iii) var3 = [ 'DS' , 'ML' , 'Python' ]
#(iv) var4 = 1.

#What will be the data type of the above given variable.

#Answer :- (i)

var1 = ' '
type(var1)
```

```
str
```

```
#Answer :- (ii)

var2 = '[ DS , ML , Python]'
type(var2)
```

```
str
```

```
#Answer :- (iii)

var3 = [ 'DS' , 'ML' , 'Python' ]
type(var3)
```

```
list
```

```
#Answer :-(iv)

var4 = 1
type(var4)
```

```
int
```

```
#Question no 3:-Explain the use of the following operators using an example:
#(i) /
```

```
#(i) /
#(ii) %
#(iii) //
#(iv) **


a = 10
b = 3
#Answer :-(i)

c = a/b
print(c)

#Answer :- (ii)

d = a % b
print(d)

#Answer :-(iii)

e = a // b
print(e)

#Answer :-(iv)

f = a ** b
print(f)
```

```
3.3333333333333335
1
3
1000
```

```
#Question no 4:-Create a list of length 10 of your choice containing multiple types of data. Using for loop print the element and its data ty

#Answer :-

lis = [1,2,3,2.2,True,False,3+4j,"somnath",[1,2,3],(1,2,3)]

for i in lis:
  print(i, end = " ")
  print(type(i))
```

```
1 <class 'int'>
2 <class 'int'>
3 <class 'int'>
2.2 <class 'float'>
True <class 'bool'>
False <class 'bool'>
(3+4j) <class 'complex'>
somnath <class 'str'>
[1, 2, 3] <class 'list'>
(1, 2, 3) <class 'tuple'>
```

```
#Question no 5:- Using a while loop, verify if the number A is purely divisible by number B and if so then how many times it can be divisible

#Answer :-

A = 64
B = 2

count =0

while A % B == 0:
  A = A // B
  count += 1

print(f"A is purely divisible by B and the numnbr of division is {count}")
```

```
A is purely divisible by B and the numnbr of division is 6
```

```
#Question no 6:- Create a list containing 25 int type data. Using for loop and if-else condition print if the element is divisible by 3 or no

#Answer :-

lis = [1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25]
```

```
for i in range(1,26):
  if i % 3 == 0:
    print(f"{i} is divisible by 3")
```

```
3 is divisible by 3
6 is divisible by 3
9 is divisible by 3
12 is divisible by 3
15 is divisible by 3
18 is divisible by 3
21 is divisible by 3
24 is divisible by 3
```

```
#Question no 7:- What do you understand about mutable and immutable data types? Give examples for both showing this property.

#Answer :-

#list is a mutable data types

lis = [1,2,3,4]
lis[2] = 100
lis
```

```
[1, 2, 100, 4]
```

```
# Tuple and string are immutable object

t = (1,2,3,4,6)
t[0] = 500 # It will through an error
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-23-fab10c054d44> in <cell line: 4>()
      2
      3 t = (1,2,3,4,6)
----> 4 t[0] = 500 # It will through an error

TypeError: 'tuple' object does not support item assignment
```

Next steps: Explain error

```
s = "Somnath giri"
s[2] = "pwskills" #  it will through an error
```

```
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-24-2d4bbdab9677> in <cell line: 2>()
      1 s = "Somnath giri"
----> 2 s[2] = "pwskills" #  it will through an erroe

TypeError: 'str' object does not support item assignment
```

Next steps: Explain error

```
Start coding or generate with AI.
```