**Data type**

**String:**

name = "irfan"  
print(name)

output: Irfan

name = "irfan"  
print(type(name))

output: str

name = "irfan"  
print("My name is "+name)

output: My name is Irfan

first\_name = "Irfan"  
middle\_name="Shah"  
last\_name ="Mayeen"  
full\_name =first\_name +" " +middle\_name +" "+last\_name  
print(full\_name)

output: Irfan Shah Mayeen

**Integer:**

year = 21  
printf(year)

output:21

year = 21  
print(type(year))

output: int

year = 21  
year=year+4  
print(year)

output:25

Now the problem is

year = 21  
printf("My age is "+year)

output: Errror.

Solution: typecasting variable

year = 21  
print("My age is "+str(year))

Output: My age is 21

**Float:**

area = 15.5  
print(area)

Output:15.5

area = 15.5  
print(type(area))

Output:float

**Boolean:**

ans = True  
print(ans)

Output:true

ans = True  
print(type(ans))

Output: bool

ans = True  
print("Are you human? "+str(ans))

Output: Are you human?t true

Multiple Variable in single line

name , age , area,ans ="Irfan",21,15.5,True

Multiple Variable Contain same value

irfan=sibbir=miraz=22

**String**

Length

Length =len(String)

Find index

name ="Irfan Shah"  
print(name.find("I"))

Output: 0

name ="Irfan Shah"  
print(name.find("r"))

Output: 1

name ="Irfan Shah"  
print(name.find("p"))

Output: -1

Capitalize( first letter will be upper case)

name ="irfan shah"  
print(name.capitalize())

Output: Irfan shah

Upper and Lowe case letter( it will not change the string just print)

name ="Irfan Shah"  
print(name.lower())  
print(name.upper())

Output: irfan shah

IRFAN SHAH

Digit or not(full string)

name ="Irfan Shah"  
print(name.isdigit())

output:False

name ="1236"  
print(name.isdigit())

output: True

name ="123 6"  
print(name.isdigit())

output:False ( because here a space after 3. It is not a digit)

Alphabet or not(full string)

name="Irfan shah"  
print(name.isalpha())

output: false ( because space after n)

name="Irfanshah"  
print(name.isalpha())

output:True

name="123"  
print(name.isalpha())

Output:False

Count frequency

name ="aaabbbbccc"

print(name.count("a"))

output:3 .(here a arrives 3 time)

name ="aaabbbbccc"

print(name.count("b"))

output:4

Replace

name ="aaaccc"

print(name.replace("a","b"))

output: bbbccc ( all a replaced by b)

String Print n times

name ="Bangladesh"

print(name\*3)

output: BangladeshBangladeshBangladesh ( bangladesh print 3 times)

name ="Irfan Shah"

print(name)

print(len(name))

print(name.find("f"))

print(name.capitalize())

print(name.lower())

print(name.upper())

print(name.isdigit())

print(name.isalpha())

print(name.count("a"))

print(name\*3)

**Typecasting**

Type casting = convert the data type of a value to another data type

x=1 #int  
y=2.0 #float  
z="3" #str  
  
print(int(x))  
print(int(y))  
print(int(z))

Output: 1

2

3

y=2.0 #float  
z="3" #str

y=int(y)  
z=int(z)  
print(y)  
print(z)

Output: 1

2

3

**User input**

Input();

name = input("what is your name:")  
age=input("How old are you: ")  
print(name)  
print(age)

output: what is your name:irfan

How old are you: 18

irfan

18

age=input("How old are you: ")  
age=age+1

print(age)

Output: Error

Solution: typecasting variable

age=int(input("How old are you: "))

**Math Functions**

import math  
pi=3.14  
print(round(pi))  
print(math.ceil(pi))  
print(math.floor(pi))  
print(abs(pi))  
print(pow(3,2))  
print(math.sqrt(64))

3

4

3

3.14

9

8.0

maximum && minimum

x=2  
y=3  
z=6  
print(max(x,y,z))

print(min(x,y,z)

Output:6 (maximum number)

2 (minimum number)

**String Slicing**

name ="Irfan Shah"  
first\_name= name[0:5]  
print(first\_name)

output: Irfan

name ="Irfan Shah"  
last\_name=name[6:10]  
print(last\_name)

output: shah

name ="Irfan Shah"  
funky\_name=name[0:8:2]  
print(funky\_name)

Output : IfnSa (print 1 skip character)

name ="Irfan Shah"

funky\_name=name[0:10:3]  
print(funky\_name)

Output: IaSh

name ="Irfan Shah"

funky\_name=name[::2]  
print(funky\_name)

output: IfnSa ( here name[ : :🡪 python assume first empty ,last empty

Reverse string

name ="Irfan Shah"

reverse\_name= name[::-1]  
print(reverse\_name)

Output: hahS nafrI

Slice() function

website = "http://google.com"  
slice = slice(7,-4)  
print(website[slice])

Output: google

website = "http://google.com"  
website2= "http://facebook.com"  
slice = slice(7,-4)  
print(website[slice])  
print(website2[slice])

Output: google

facebook

**Else if**

age =int(input("Enter your age:"))  
if age>=18 :  
 print("Your are an adult")  
else:  
 print("you are a child")

age =int(input("Enter your age:"))  
if age>=18 :  
 print("Your are an adult")  
elif age<0:  
 print("You have not born")  
else:  
 print("you are a child")

age =int(input("Enter your age:"))  
if age>=18 :  
 print("Your are an adult")  
elif age==12:  
 print("you are 12 years old")  
elif age<0:  
 print("You have not born")  
else:  
 print("you are a child")