



Que. 01 what do understand by software in computer science and how can you categorize the software.

Ans A software is a collection of Program and procedures whose objectives is to enhance the capabilities of the hardware machine.

computer software is normally classified into two categories

- 1) Application software
- 2) System software

System ~~Application~~ software - Application software is a set of one or more programs designed to control the operation of a computer system.

These program do not solve specific problems. they are generally programs written to help humans in the uses of computer system.

Application software - Application software is a set of one or more programs designed to carry out operation for a specific task.



for example - A payroll package produces payslip only and an application package for processing examination results produces marksheets as the major output.

Que 2. write five features of python that make it user friendly.

Ans easy to code. python is very high level programming language, yet it is effortless to learn.

- Easy to read python code, looks like simple english words.
- Portable.
- object oriented and procedure oriented.
- Extensible.
- support for GUI.
- Dynamically Typed.

Que 3. list the various numerical data type in python with examples.

Ans Numerical data type holds numerical value. In numerical data type there are 4 sub types as well.



Integers - Integers are used to represent whole number values.

Example - $x = 100$, $y = 124$

It will be the integer as long as the value is a whole number.

Float - Float data type is used to represent decimal points values.

Example - $x = 10.25$, $y = 12.30$

It will be the float as the value contains decimal point.

Complex number - Complex numbers are used to represent imaginary values. Imaginary values are denoted with 'j' at the end of the number.

Example - $x = 10 + 5j$

Boolean - Boolean is used for categorised output. Since the output of boolean is either true or false.

Example $\text{num} > 4$

num is the boolean value



n - empty
t will
end of

Ques 4. write the output for the following expression
is evaluated using a python interpreter.
write error if you think the expression will raise
an error.

i) `print(18 % 6)`

output - 0

ii) `if 12 + 5 * 4 == 15m`
`print("True")`

`else:`

`print("False")`

output - False

iii) `print("ITC" + 101)`

output type error: can only concatenate str
(not "int") to str.

iv) `num = 5 > 4`

`print num`

output - True

Ques 5. let num1 and num2 be two non-empty lists
write a python command that will append
the last element of num2 to the end of num1

Ans (i)

Program -

```
num1 = [1, "Ayushi", 2, "Baralake"]
num2 = [3, "Ayu", 4, "Bata"]
```

```
num1.append(num2[-1])
```

```
Print(num1)
```

output -

```
[1, "Ayushi", 2, "Baralake", 3, "Ayu"]
```

ii) list is mutable and tuple is immutable Justify
the statement with example.

Ans

```
num = [1, "Ayushi", 2, "Baralake"]
```

```
num.append("shyam")
```

```
print(num)
```

```
output, [1, "Ayushi", 2, "Baralake", "shyam"]
```




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It means list is mutable.

Tuple is immutable.

example -

```
num = (1, "Ayushi", 2, "Barapatre")  
num.append("Madhey")
```

output

AttributeError ('tuple' object has no attribute
append.)