**1. In the below elements which of them are values or an expression? eg: - values can be integer or string and expressions will be mathematical operators?**

**Ans.**\* - Expression

'hello' - Values

-87.8 - Values

- - Expression

/ - Expression

+ - Expression

6 – Values

**2. What is the difference between string and variable?**

**Ans.** String are data which is indicated through variables and variable are symbols which the data or Strings are indicated

**3. Describe three different data types?**

**Ans. Dictionary**: - it is mutable in nature, it can be indicate by using dict() or curly braces{}

**Tuple**: - It is immutable in nature, after using tuple we cannot edit, modified, change or delete anything from its data.

**Set**: A set is a collection which is unordered, unchangeable. and unindexed where every element is Unique

**4. What is an expression made up of? What do all expressions do?**

**Ans.** An expression is a construct made up of variables, operators, and operands that evaluates to a single value.

E.g. x=17

X= x+10

**5. This assignment statements, like spam = 10. What is the difference between an expression and a statement?**

**Ans.** Expression can be assigned but Statements can be declared

**6. After running the following code, what does the variable bacon contain?**

bacon = 22

bacon + 1

**Ans.** The bacon variable is set to 22. The bacon + 1 expression does not reassign the value in bacon (that would need an assignment statement: bacon = bacon + 1)

**7. What should the values of the following two terms be?**

'spam' + 'spam spam'

'spam' \* 3

**Ans.** Both expressions evaluate to the string 'spamspamspam'

**8. Why is eggs a valid variable name while 100 is invalid?**

Ans. Because variable names cannot begin with a number. Hence 100 is invalid

**9. What three functions can be used to get the integer, floating-point number, or string version of a value?**

**Ans.**

**a**. 'int ()’: - This function converts a value to an integer data type. If the value passed to it is a floating-point number, it will be truncated (not rounded) to the nearest whole number. If the value cannot be converted to an integer, it will raise a ValueError.

int () examples

int value = int (3.14) # int\_value will be 3 (truncated from 3.14)

int\_value2 = int ("42”) # int\_value2 will be 42 (converted from the string "42")

# int\_value3 = int("hello”) # Raises a ValueError since "hello" cannot be converted to an integer

**b**. 'float ()’: - This function converts a value to a floating-point number of data type. It is used to convert integers, strings containing floating-point numbers, or other numeric values to floating-point format. If the value cannot be converted to a float, it will raise a ValueError.

# float () examples

float value = float (42) # float value will be 42.0 (converted from the integer 42)

float\_value2 = float ("3.14”) # float\_value2 will be 3.14 (converted from the string "3.14")

# float\_value3 = float("hello”) # Raises a ValueError since "hello" cannot be converted to a float.

**c**. 'str ()’: - This function converts a value to a string data type. It is used to represent the given value as a string, regardless of its original data type.

# str () examples

str\_value = str (42) # str\_value will be the string "42" (converted from the integer 42)

str\_value2 = str (3.14) # str\_value2 will be the string "3.14" (converted from the float 3.14)

**10. Why does this expression cause an error? How can you fix it?**

'I have eaten ' + 99 + ' burritos.'

**Ans.** The expression causes an error because 99 is an integer, and only strings can be concatenated to other strings with the + operator. The correct way is I have eaten ' + str (99) + ' burritos.'.