**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.**

\* = mathematical operators. (expression)

'hello' = string (values)

-87.8 = integer (values)

- = mathematical operators.( expression)

/ = mathematical operators. (expression)

* = mathematical operators. (expression)

6 = integer(values)

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

The difference between a string and variable is that a variable is used to store data the data stored in the variable can be of different types whereas a string is a set of words or a collection of words(text) , sentence which is placed inside a variable also the strings are enclosed in “ “, we use variable to store different type of information and where string is also a type of information which can be stored inside a variable

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

Integer = So the first is integer can be numbers excluding decimal numbers integers are a whole number without any decimal

String = a string is a sequence of character which are enclosed in single or double quotes it is words or sentences also the strings are kept inside a round bracket

List = List is a collection of items in which you can store different type of data types where it can be numeric or string which are separated by commas and list is enclosed in a square brackets

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

The expression is made-up of operands and operators where operands are the number on which the operators are working, operands can be values like numbers, strings, or variables, while operators define the operation to be performed on those operand for example if operands are 2 and, 4 and operator between them is a + then the answer that they will give will be 6 and here the complete equation of operands and operators are known as expression.

What all expression do is basically compute a logic where it can be doing a multiplication or division or addition or subtraction where they have a logic on which they give answer by taking operands as an input and using operators as what logic has to be performed

when you execute an expression, and computes the result of that expression and the answer can be a single value or a collection of value

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

The main difference between an expression and a statement is that that an expression results to a value which it evaluates whereas in statement it is just a task that was given to a variable for example here spam = 10 here we are assigning 10 to the spam variable and particularly it is not generating any new value or result also an expressions are often part of a statement but not all statements are expression because sometimes statements can be used to assign values or it can be used in loops

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

bacon = 22

bacon + 1

bacon would be containing 22+1 = 23

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

'spam' + 'spamspam' = ‘spamspamspam’

'spam' \* 3 = ‘spamspamspam’

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

So there are certain rules that a variable has to follow for example a variable can only start with an \_ or an letter which can be a small or capital ranging from A-Z whereas it cannot start with any numerical value but after the first digit the variable name can contain numbers ranging from zero to 9 where here we see the eggs it starts with e and follows all the rules whereas 100 start with 1 and not any letter or an \_ so hence it is invalid also there cannot be any spaces between the variable name

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

int() : here the int is used to convert any string or float value into an complete integer where for example if and float value of 6.999 is present then converting into integer it will transform it into only 6 and if a string value inside a double quote 65 is present then it will convert it into an integer

str() : this function converts the value into a string representation it takes any value such as number Boolean or any other data type as an argument and return the string represented of the value for example if value taken is a float value 3.14 it will convert fit into a string value inside double quotes 3.14

float() : this function converts any value into a floating point value for example if an integer value of five is given then it will convert it into 5.0

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

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

The main issue here is that we are trying to add a string with an integer that cannot be possible to fix it we can either convert the integer into a string and by converting it into string then we can perform the expression of addition on it As for performing any addition we have to have same type of data types the answer for this will be

X = Str(99)

X (Its has converted the int into a string printing X would give you “99” )

'I have eaten ' + X + ' burritos.'

Output would be   
I have eaten 99 burritos.