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.

\*

'hello'

-87.8

-

/

6

Ans: values are: ‘hello’ , -87.8 ,6 and expressions are: \* , - , / , + .

2. What is the difference between string and variable?

Ans:1. Variable: A global instance where we can store data . e.g.: a=10,b=”husna shamlik” etc

String: Store the data in terms of indexes or It is a type of information you would store in a variable. And you can extract data in string from any position e.g. s=”husna shamlik” …s[3]=n

3. Describe three different data types.

Ans: Float,boolen,complex

1.FLOAT:It represents floating point number. Used to represent real number and is written with decimal point. Eg. 89.78,45.67.

2.BOOLEN:It one of built-in data types provided by python,which represents one of two values i.e True,False. Eg.1==1…True ,2<1…..False.

3.COMPLEX:complex no has two parts real part and imaginary part ,represent by A+Bj where A is real part & B is imaginary part. Python support complex data type as built in features ,we can directly perform different operations on complex number. Eg. n=4+9j….. n.real =>4 ,n.img =>9 .

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

Ans: An expression is combination of operators and operands that is interrupted to produce some other value.

Arithmetic expressions: It is combination of numeric value, operator, and sometimes parenthesis the result of this type of expression is also numeric value. The operator used in these expressions are arithmetic operator like addition, sub, mult etc. eg. 1) – (x-y),+ (x+y) ,\* (x\*y), / (x/y), // (x//y)..Quotient, % (x%y)….remainder . x=20 y=10 add=x+y, sub=x-y,mul=x\*y,div=x/y…….print(add),print(sub),print(mul),print(div).

Integral expression: It produce only integer result after all computation and type conversions.eg. a=13, b=10.9 c=a+int(b) print(c) …ans is 23.

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

Ans: A statement does something, like creating variable displaying a value, it only does whatever the statement says.

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| |  | | --- | | **Expression** |   1.An expression evaluate to value.  2.the evaluation of statement does not change state.  3.evaluation of expression always produce or return a result value.  4.Every expression can’t be statement.eg a=4,a+16……ans is 20. | |  | | --- | | **Statement** |   1.A statement execute something.  2.The execution of statement changes state.  3.Execution of statement may or may not be produce or display result value, it only does whatever the statement says.  4.every statement can be expression.eg spam=10 print(spam)…..ans is 10. |

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

bacon = 22

bacon + 1

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

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

'spam' + 'spamspam'

'spam' \* 3

Ans:1). Ans is spamspamspam

2). spamspamspam

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

Ans: A variable name must start with a letter or the underscore character. A variable can’t start with a number.

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

Ans: The int(),float(),str() functions evaluate to integer, floating-point no or string version of the value pass to them.

Eg.int()….ans is 0,float()….ans is 0.0,str()….ans is ‘ ‘ .

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

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

Ans:Because 99 is an integer no ,and only string can be concatenated to other string with +operator in the above expression .the correct way is:

‘I have eaten’ + str(99) + ‘burritos’.

Ans is ‘I have eaten99burritos.