1. What are escape characters, and how do you use them?

In Python, in a string representation, there are certain characters that are not printable and interpreted differently by python. For example, singe quotation ('), double quotation ("), backslash (\) etc. Python does not allow these characters to be stored directly in a string. To make Python accept these differently interpreted characters to be a part of the string, we use escape characters.

As soon as Python sees the escape character, it interprets the next character in the string after the escape character in a different way. Most of the escape characters start with a backslash (\)

A few examples of escape characters and their applications are tabulated below:

\'	**Backslash Single Quotation**	In case of a python string, where (') needs to be part of the string itself For example to represent the string "You're", we have two options: • The string needs to be enclosed within (") to let Python know (') is a character of the string itself • Use the escape character \': String with the escape character is defined as 'You\'re'. In this case, Python won't throw the EOL error, instead interpret ' in \' as a part of the string itself
\\	**Double Backslash**	Similar to ('), to display a (\) using the print(), it has be prefixed by another (\) for the python to interpret it accordingly Example : To get the output Accounts \ Finance we should pass, print('Accounts \\ Finance')
\n	**New Line (Next Line)**	The term '\n' is interpreted as go to next line (Enter Button) Example : print('Hii\nHello) prints Hii Hello
\t	**Tab**	The term '\t' is interpreted tab space (Tab Button) Example : print('Hii\tHello) prints Hii Hello

2. What do the escape characters n and t stand for?

\n	**New Line (Next Line)**	The term '\n' is interpreted as go to next line (Enter Button) Example : print('Hii\nHello) prints Hii Hello
\t	**Tab**	The term '\t' is interpreted tab space (Tab Button) Example : print('Hii\tHello) prints Hii Hello

3. What is the way to include backslash characters in a string?

\\	Double Backslash	Similar to ('), to display a (\) using the print(), it has be prefixed by another (\) for the python to interpret it accordingly
		Example : To get the output Accounts \ Finance we should pass, print('Accounts \\ Finance')

4. The string "Howl's Moving Castle" is a correct value. Why isn't the single quote character in the word Howl's not escaped a problem?

In the string above, the enclosure is done using double quotation, ("). Hence the apostrophe (') is interpreted correctly.

5. How do you write a string of newlines if you don't want to use the n character?

Triple quotes, (''') to start and end the string can be used for a multi-line definition without using \n. On using ('''), a basic enter command while defining the string is interpreted as next line. See the image below for demonstration.

```
multi_line='''This is line 1
This is line 2'''

print(multi_line)

This is line 1
This is line 2
```

6. What are the values of the given expressions?

'Hello, world!'[1]: 'e'

'Hello, world!'[0:5]: 'Hello'

'Hello, world!'[:5]: 'Hello'

'Hello, world!'[3:]: 'lo, world!'

7. What are the values of the following expressions?

'Hello'.upper(): 'HELLO'

'Hello'.upper().isupper(): True

'Hello'.upper().lower(): 'hello'

8. What are the values of the following expressions?

'Remember, remember, the fifth of July.'.split()

Value: ['Remember,' , 'remember,' , 'the' , 'fifth' , 'of' , 'July.']

Intuition: By default, split() splits the entered string based on whitespaces and stored each split segments in a list. But notice, "Remember," come together before the space, so it will be stored as a single element similarly for the last segment "July." also

'-'.join('There can only one.'.split())

Value: There-can-only-one

Intuition: As explained, split() splits the string into a list of elements, join method recombines them back to a string based on the additional string provided.

9. What are the methods for right-justifying, left-justifying, and centering a string?

Right Justification – rjust()
Left Justification – ljust()
Centre aligned – center()

```
▶| a='Arv'
  a.ljust(6," ")
]: 'Arv   '

▶| a.rjust(6," ")
]: '   Arv'

▶| a.center(6," ")
]: ' Arv  '
```

10. What is the best way to remove whitespace characters from the start or end?

Python's inbuilt string function strip() removes all the whitespaces from the start and end of the string. However, it cannot strip in the intermediate white spaces.

"strip()" returns a copy of the string with the whitespaces removed from the start and the end.

```
▶| a=' Hell o '
  b=a.strip()
  print(a)
  print(b)

   Hell o
  Hell o
```