Q1. lst1 = [2, 4, 6, 8]

ser1 =

	colname
0	2
1	4
2	6
3	8

(i) print(lst1*2)

↓

[2, 4, 6, 8, 2, 4, 6, 8]

(ii) print(ser1*2).

0	4
1	8
2	12
3	16

→ for list values to double we have to iterate to individual values

Q2. (i) the operation is performed on list and not on indivual values within list

(ii) for series object the operation adds on the elements of series.

Q3. S1 =>

A	7600
B	5600
C	7000
D	7000

S1 = pd.Series(
data = {'A': 7600,
'B': 5600,
'C': 7000,
'D': 7000},
index = ['A', 'B', 'C', 'D'])

S1.indx = range(0, 5)

↓

error.
must be 4,
as there are only 4
elements in the series

Q4.

Q5. (i) fst = [9, 10, 11]

obj = pd.Series(data = fst*2).

obj
0 9
1 10
2 11
3 9
4 10
5 11

(ii) fst = pd.Series(data = [9, 10, 11])

obj2 = pd.Series(data = fst*2).

obj2
0 18
1 20
2 22.

No, they produce different outcomes reason is as discussed in Q1/2 that when list is operated the operation acts on whole list and not individual elements.

Q6. ser → 30 values

(a) ser.head() → first 5 elements
(b) ser.head(8) → first 8 elements
(c) ser.tail(1) → last element
(d) ser.tail(11) → last 11 elements.

All output different segments of Series (a), (b) have first 5 elements common both them & (c), (d) have last element common in them.

Q7.

	S_1	S_2
0	3	12
1	5	10
2	6	15
3	10	20
4	12	27

(a) $S_1 + S_2$.

↳

0	15
1	NaN
2	16
3	NaN
4	30
5	NaN
6	NaN.

(b) $S_1 - S_2$

↳

0	-9
1	NaN
2	-4
3	NaN
4	-10
5	NaN
6	NaN

Q8.

	S
0	0.43
1	0.61
2	-0.26
3	-0.83

(a) S * 100

↳

0	43
1	61
2	-26
3	-83

(b) S > 0

↳

0	True
1	True
2	False
3	False

(c) S_1 = pd.Series(s).

print(s1) →

0	0.43
1	0.61
2	-0.26
3	-0.83

(d) S_3 = pd.Series(S_1) + 3.

print(S_3) →

0	3.43
1	3.61
2	-2.74
3	2.17

Q9. let S ⇒

0	0.43
1	0.61
2	-0.26
3	-0.83

(a) print(S[1:1]) → [ ] Nothing.

(b) print(S[0:1]) →

0	0.43

first element

(c) print(S[0:2]) →

0	0.43
1	0.61

first 2 elements

(d) S[0:2] = 12.

print(S) →

0	12
1	12
2	-0.26
3	-0.83

→ first 2 element changed to value assigned

(e) print(s.index)

→ 0, 1, 2, 3.

print(s.values)

→ 12, 12, -0.26, -0.83.

Q10. S = 0 12
1 12
2 -0.26
3 -0.83

S.indup = ['AMZN', 'AAPL', 'MSFT', 'GOOG']

print(s)

↳ AMZN 12
AAPL 12
MSFT -0.26
GOOG -0.83

print(s['AMZN']) ↳ 12

S['AMZN'] = 1.5

print(S['AMZN']) ↳ 1.5

print(s)

↳ AMZN 1.5
AAPL 12
MSFT -0.26
GOOG -0.83

Q11.

S1 = pd.Series(range(1, 15, 3), index = list('ababa'))

print(S1['ab'])

S1 →
a 1
b 4
a 7
b 10
a 13

becomes

error

there is no indup as 'ab'.

Another error in indexing is that it is not unique so, there remains confusion as to which index is being refered to

corrected ⇒ print(S1[0:2]) ← numbered index