

Aarhus Universitet, Science and Technology, Computer Science

Exam

Introduction to Programming with Scientific Applications

Wednesday 27 June 2018, 9:00-11:00

Allowed aid: **None**

The exam questions are answered on the problem statement that is handed in at the end of the exam

*Tilladte hjælpemidler: **Ingen***

Eksamensspørgsmålene besvares på opgaveformuleringen, som afleveres ved eksamenens slutning

Student ID/*årskort* _____

Name/*navn* _____

Information

The exam consists of a set of multiple-choice questions. The questions are answered on the problem statement **that is handed in**. For each question is stated the weight of the question compared to the full exam. Each sub-question has exactly one correct answer. You can select **at most one** answer for each sub-question, by marking the corresponding box with a cross. A sub-question is scored as follows:

- Marking the correct answer gives you 1 point.
- If you do not mark any answer you get 0 points.
- Marking a wrong answer gives you $-\frac{1}{k-1}$ point, where k is the number of answer options.

For a question with weight $v\%$ containing n sub-questions, where you score a total of s points, your score for the question will be $\frac{s}{n} \cdot v\%$. Note that it is possible to get a negative score for a question.

*Dette eksamenssæt består af en mængde multiple-choice-opgaver. Opgaverne besvares på opgaveformuleringen **som afleveres**. For hver opgave er angivet opgavens andel af det samlede eksamenssæt. Hvert delspørgsmål har præcist et rigtigt svar. For hvert delspørgsmål, må man vælge **max ét svar** ved at afkrydse den tilsvarende rubrik. Et delspørgsmål bedømmes som følgende:*

- *Hvis du sætter kryds ved det rigtige svar, får du 1 point.*
- *Hvis du ikke sætter nogen krydser, får du 0 point.*
- *Hvis du sætter kryds ved et forkert svar, får du $-\frac{1}{k-1}$ point, hvor k er antal svarmuligheder.*

For en opgave med vægt $v\%$ og med n delspørgsmål, hvor man opnår samlet s point, beregnes pointene for besvarelse af opgaven som $\frac{s}{n} \cdot v\%$. Bemærk at det er muligt at få negative point for en opgave.

Python version

In the following Python refers to Python 3.6.

I det følgende antages at Python refererer til Python 3.6.

Question 1 (Variable names, 5 %)

Which of the below are valid variable names?

Hvilke af nedenstående er lovlige variablenavne?

	Yes/ <i>Ja</i>	No/ <i>Nej</i>
x	<input checked="" type="checkbox"/> 100%	<input type="checkbox"/> 0%
for	<input type="checkbox"/> 7%	<input checked="" type="checkbox"/> 86%
_10	<input checked="" type="checkbox"/> 90%	<input type="checkbox"/> 5%
1A_B	<input type="checkbox"/> 6%	<input checked="" type="checkbox"/> 92%
--if--	<input checked="" type="checkbox"/> 47%	<input type="checkbox"/> 31%

Question 2 (Indexing, 5 %)

What is the result of each of the below expressions?

Hvad er resultatet af hvert af nedenstående udtryk?

	0	1	2	3	4	some error/ <i>en fejl</i>
[1, 2, 3][3]	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 2%	<input type="checkbox"/> 0%	<input checked="" type="checkbox"/> 96%
[3][1, 2, 3]	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input checked="" type="checkbox"/> 90%
{1:2, 3:4}[0]	<input type="checkbox"/> 1%	<input type="checkbox"/> 15%	<input type="checkbox"/> 19%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input checked="" type="checkbox"/> 52%
[0][0]	<input checked="" type="checkbox"/> 98%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%
{1, 2, 3}[0]	<input type="checkbox"/> 0%	<input type="checkbox"/> 49%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input checked="" type="checkbox"/> 45%
[[1, 2, 3][1]][0]	<input type="checkbox"/> 1%	<input type="checkbox"/> 2%	<input checked="" type="checkbox"/> 92%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 2%
{1:2, 3:4}[1]	<input type="checkbox"/> 0%	<input type="checkbox"/> 2%	<input checked="" type="checkbox"/> 40%	<input type="checkbox"/> 14%	<input type="checkbox"/> 19%	<input type="checkbox"/> 10%

Question 3 (Slicing, 5 %)

What is the result of each of the below expressions?

Hvad er resultatet af hvert af nedenstående udtryk?

	()	(1)	(2)	(3)	(4)	(1,2)	(2,3)	(3,4)	(1,2,3)	(2,3,4)
(1,2,3,4)[1:3]	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 1%	<input type="checkbox"/> 1%	<input type="checkbox"/> 0%	<input type="checkbox"/> 1%	<input checked="" type="checkbox"/> 73%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 20%
(1,2,3,4)[3:1]	<input checked="" type="checkbox"/> 32%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 1%	<input type="checkbox"/> 17%	<input type="checkbox"/> 0%	<input type="checkbox"/> 1%	<input type="checkbox"/> 25%	<input type="checkbox"/> 0%	<input type="checkbox"/> 4%
(1,2,3,4)[1:-1]	<input type="checkbox"/> 3%	<input type="checkbox"/> 3%	<input type="checkbox"/> 3%	<input type="checkbox"/> 2%	<input type="checkbox"/> 2%	<input type="checkbox"/> 5%	<input checked="" type="checkbox"/> 45%	<input type="checkbox"/> 1%	<input type="checkbox"/> 1%	<input type="checkbox"/> 28%
(1,2,3,4)[2:-2]	<input checked="" type="checkbox"/> 30%	<input type="checkbox"/> 2%	<input type="checkbox"/> 5%	<input type="checkbox"/> 35%	<input type="checkbox"/> 0%	<input type="checkbox"/> 1%	<input type="checkbox"/> 8%	<input type="checkbox"/> 0%	<input type="checkbox"/> 4%	<input type="checkbox"/> 0%
(1,2,3,4)[-4:-2]	<input type="checkbox"/> 14%	<input type="checkbox"/> 0%	<input type="checkbox"/> 2%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input checked="" type="checkbox"/> 46%	<input type="checkbox"/> 2%	<input type="checkbox"/> 3%	<input type="checkbox"/> 19%	<input type="checkbox"/> 0%

Question 4 (Boolean operations, 5 %)

What is the result of each of the below boolean expressions?

Hvad er resultatet af hvert af nedenstående boolske udtryk?

	False	True	"False"	"True"	None
False and True	<input checked="" type="checkbox"/> 93%	<input type="checkbox"/> 6%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%
None or True	<input type="checkbox"/> 1%	<input checked="" type="checkbox"/> 70%	<input type="checkbox"/> 0%	<input type="checkbox"/> 1%	<input type="checkbox"/> 20%
"False" and "True"	<input type="checkbox"/> 7%	<input type="checkbox"/> 15%	<input type="checkbox"/> 14%	<input checked="" type="checkbox"/> 52%	<input type="checkbox"/> 1%
"False" or "True"	<input type="checkbox"/> 1%	<input type="checkbox"/> 17%	<input checked="" type="checkbox"/> 57%	<input type="checkbox"/> 13%	<input type="checkbox"/> 1%
"False" and not "True"	<input checked="" type="checkbox"/> 48%	<input type="checkbox"/> 5%	<input type="checkbox"/> 10%	<input type="checkbox"/> 9%	<input type="checkbox"/> 3%

Question 5 (Conditionals, 4 %)

```
x = 1
if x == 1:
    x += 2
    if x == 1:
        x += 3
    else:
        x += 2
else:
    x += 1
print(x)
```

What does the above code print?

Hvad udskriver ovenstående kode?

1	2	3	4	5	6	7	8	9
<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 1%	<input type="checkbox"/> 0%	<input checked="" type="checkbox"/> 97%	<input type="checkbox"/> 1%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%

Question 6 (Loop, 4 %)

```
x = 1
while True:
    if x > 3:
        break
    x += 1
else:
    1
print(x)
```

What does the above code print?

Hvad udskriver ovenstående kode?

1	2	3	4	5	6	7	8	9
<input type="checkbox"/> 10%	<input type="checkbox"/> 1%	<input type="checkbox"/> 3%	<input checked="" type="checkbox"/> 81%	<input type="checkbox"/> 1%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%

Question 7 (Function, 4 %)

```
def f(x, y):
    return x ** y

x = 2
y = 3
print(f(y, x))
```

What does the above code print?

Hvad udskriver ovenstående kode?

2	3	4	6	8	9
<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	<input type="radio"/> E	<input checked="" type="radio"/> F
0%	0%	0%	0%	23%	76%

Question 8 (Recursion, 4 %)

```
def f(x):
    if x >= 1:
        f(x - 1)
        print(x, end=' ')
        f(x - 1)

f(3)
```

What does f(3) print?

Hvad udskriver f(3)?

3211211	1121123	1213121	12321	232
<input type="radio"/> A	<input type="radio"/> B	<input checked="" type="radio"/> C	<input type="radio"/> D	<input type="radio"/> E
16%	3%	64%	4%	4%

Question 9 (List comprehension, 5 %)

What is the result of each of the below expressions?

Hvad er resultatet af hvert af nedenstående udtryk?

	1	2	3	4	5	6	7	8	9	10
<code>sum([x*x for x in [1,2,1]])</code>	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	<input type="radio"/> E	<input checked="" type="radio"/> F	<input type="radio"/> G	<input type="radio"/> H	<input type="radio"/> I	<input type="radio"/> J
	2%	0%	0%	1%	1%	94%	0%	0%	0%	1%
<code>sum([y for x in (1, 2, 3) for y in (1, 2)])</code>	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	<input type="radio"/> E	<input type="radio"/> F	<input type="radio"/> G	<input type="radio"/> H	<input checked="" type="radio"/> I	<input type="radio"/> J
	0%	1%	58%	0%	0%	0%	1%	0%	32%	0%
<code>sum([x*y for x,y in zip([1,2,3],[3,1,1])])</code>	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	<input type="radio"/> E	<input type="radio"/> F	<input type="radio"/> G	<input checked="" type="radio"/> H	<input type="radio"/> I	<input type="radio"/> J
	0%	0%	0%	0%	1%	0%	0%	98%	0%	0%
<code>sum([y for x,y in [(1,2),(3,4),(2,1)])]</code>	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	<input type="radio"/> E	<input type="radio"/> F	<input checked="" type="radio"/> G	<input type="radio"/> H	<input type="radio"/> I	<input type="radio"/> J
	0%	0%	0%	0%	0%	0%	98%	0%	0%	0%
<code>sum([x*x for x in [1,2,3] if x < 3])</code>	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	<input checked="" type="radio"/> E	<input type="radio"/> F	<input type="radio"/> G	<input type="radio"/> H	<input type="radio"/> I	<input type="radio"/> J
	0%	0%	4%	0%	92%	1%	1%	0%	0%	0%

Question 10 (sorted, 4 %)

```
print(sorted(("pab","kd","defg","s"), key=len, reverse=True))
```

What does the above program print?

Hvad udskriver ovenstående program?

- ☐ A 1% ['defg', 'kd', 'pab', 's']
- ☐ B 1% ['s', 'pab', 'kd', 'defg']
- ☐ C 10% ['s', 'kd', 'pab', 'defg']
- ☒ D 82% ['defg', 'pab', 'kd', 's']
- ☐ E 0% ['pab', 'defg', 'kd', 's']

Question 11 (map, 4 %)

```
print(tuple(map(lambda x : x + x, range(3))))
```

What does the above program print?

Hvad udskriver ovenstående program?

- ☐ A 0% (0, 1, 2)
- ☐ B 0% (3)
- ☐ C 0% (0, 1, 3)
- ☐ D 0% (0, 1, 2, 3)
- ☒ E 97% (0, 2, 4)
- ☐ F 0% (0, 2, 4, 9)

Question 12 (Types, 5 %)

What is the resulting type of each of the below expression?

For hvert af nedenstående udtryk hvilken type har resultatet?

	int	float	str	list	tuple	bool
1 + 2.0	<input type="checkbox"/> A 1%	<input checked="" type="checkbox"/> D 97%	<input type="checkbox"/> C 0%	<input type="checkbox"/> D 0%	<input type="checkbox"/> E 0%	<input type="checkbox"/> F 0%
3 / 2	<input type="checkbox"/> A 4%	<input checked="" type="checkbox"/> D 94%	<input type="checkbox"/> C 0%	<input type="checkbox"/> D 0%	<input type="checkbox"/> E 0%	<input type="checkbox"/> F 0%
3 // 2	<input checked="" type="checkbox"/> D 94%	<input type="checkbox"/> B 5%	<input type="checkbox"/> C 0%	<input type="checkbox"/> D 0%	<input type="checkbox"/> E 0%	<input type="checkbox"/> F 0%
'abc' + 'def'	<input type="checkbox"/> A 0%	<input type="checkbox"/> B 0%	<input checked="" type="checkbox"/> D 96%	<input type="checkbox"/> D 0%	<input type="checkbox"/> E 0%	<input type="checkbox"/> F 1%
'abc' * 3	<input type="checkbox"/> A 0%	<input type="checkbox"/> B 0%	<input checked="" type="checkbox"/> D 98%	<input type="checkbox"/> D 0%	<input type="checkbox"/> E 0%	<input type="checkbox"/> F 0%
len(('a', 'b'))	<input checked="" type="checkbox"/> D 87%	<input type="checkbox"/> B 0%	<input type="checkbox"/> C 1%	<input type="checkbox"/> D 0%	<input type="checkbox"/> E 4%	<input type="checkbox"/> F 0%

Question 13 (yield, 4 %)

```
def f(x):  
    yield 1  
    while x > 0:  
        yield x  
        x -= 1  
    yield 1  
  
print(list(f(3)))
```

What list does the above program print?

Hvilken liste udskriver ovenstående program?

- | | | | | | |
|-------------------------------|-------------------------------|---|-------------------------------|-------------------------------|-------------------------------|
| [1] | [1, 1] | [1, 3, 2, 1, 1] | [1, 3, 3, 3, 1] | [1, 3, 2, 1, 0, 1] | [1, 3, 2, 1] |
| <input type="checkbox"/> A 2% | <input type="checkbox"/> B 0% | <input checked="" type="checkbox"/> C 92% | <input type="checkbox"/> D 0% | <input type="checkbox"/> E 2% | <input type="checkbox"/> F 1% |

Question 14 (Recursive data, 4 %)

```
def traverse(T):  
    if type(T) is not tuple:  
        return T + T  
    else:  
        return tuple(traverse(c) for c in T)  
  
print(traverse(((3, (2, 5)), 4)))
```

What does the above program print?

Hvad udskriver ovenstående program?

- | | |
|------------------------------------|---|
| ((3, 3, (2, 2, 5, 5)), 4, 4) | <input type="checkbox"/> A 2% |
| ((3, 3), ((2, 2), (5, 5)), (4, 4)) | <input type="checkbox"/> B 1% |
| (3, 2, 5, 4) | <input type="checkbox"/> C 5% |
| (6, 4, 10, 8) | <input type="checkbox"/> D 34% |
| ((6, (4, 10)), 8) | <input checked="" type="checkbox"/> E 47% |
| (3, 3, 2, 2, 5, 5, 4, 4) | <input type="checkbox"/> F 1% |

Question 15 (Generator expressions, 4 %)

```
g = (x * 2 for x in range(1, 6))

print(next(g), next(g), list(g))
```

What does the above program print?

Hvad udskriver ovenstående program?

- | | | |
|----------------------|---------------------------------------|-----|
| 2 2 [2, 4, 6, 8, 10] | <input type="checkbox"/> A | 4% |
| 2 4 [2, 4, 6, 8, 10] | <input type="checkbox"/> B | 45% |
| 2 4 [6, 8, 10] | <input checked="" type="checkbox"/> C | 39% |
| 2 2 [6, 8, 10] | <input type="checkbox"/> D | 0% |
| 2 None [] | <input type="checkbox"/> E | 0% |

Question 16 (* notation, 4 %)

```
x, y, *z, w = 1, 2, 3, 4, 5, 6
```

What is the value of z?

Hvilken værdi har z?

- | | | | | |
|----------------------------|----------------------------|---------------------------------------|----------------------------|----------------------------|
| 3 | [3] | [3,4,5] | [3,4,5,6] | 12 |
| <input type="checkbox"/> A | <input type="checkbox"/> B | <input checked="" type="checkbox"/> C | <input type="checkbox"/> D | <input type="checkbox"/> E |
| 0% | 1% | 95% | 1% | 1% |

Question 17 (Sets, 5 %)

What is the value of the following expressions?

Hvilken værdi har følgende udsagn?

- | | [] | [1] | [2] | [3] | [2,2] | [1,2,3] | [1,2,2,3] |
|--|---------------------------------------|---------------------------------------|---------------------------------------|----------------------------|----------------------------|---------------------------------------|----------------------------|
| <code>list({1, 2} {2, 3})</code> | <input type="checkbox"/> A | <input type="checkbox"/> B | <input type="checkbox"/> C | <input type="checkbox"/> D | <input type="checkbox"/> E | <input checked="" type="checkbox"/> F | <input type="checkbox"/> G |
| | 0% | 0% | 9% | 0% | 0% | 74% | 10% |
| <code>list({1, 2} & {2, 3})</code> | <input type="checkbox"/> A | <input type="checkbox"/> B | <input checked="" type="checkbox"/> C | <input type="checkbox"/> D | <input type="checkbox"/> E | <input type="checkbox"/> F | <input type="checkbox"/> G |
| | 0% | 1% | 79% | 0% | 2% | 10% | 3% |
| <code>list({1, 2} - {2, 3})</code> | <input type="checkbox"/> A | <input checked="" type="checkbox"/> B | <input type="checkbox"/> C | <input type="checkbox"/> D | <input type="checkbox"/> E | <input type="checkbox"/> F | <input type="checkbox"/> G |
| | 1% | 70% | 1% | 1% | 1% | 1% | 1% |
| <code>list({1, 2} - {1, 2})</code> | <input checked="" type="checkbox"/> A | <input type="checkbox"/> B | <input type="checkbox"/> C | <input type="checkbox"/> D | <input type="checkbox"/> E | <input type="checkbox"/> F | <input type="checkbox"/> G |
| | 86% | 0% | 0% | 1% | 0% | 0% | 0% |
| <code>list({1, 2} - {1, 2, 3})</code> | <input checked="" type="checkbox"/> A | <input type="checkbox"/> B | <input type="checkbox"/> C | <input type="checkbox"/> D | <input type="checkbox"/> E | <input type="checkbox"/> F | <input type="checkbox"/> G |
| | 65% | 0% | 0% | 12% | 0% | 0% | 0% |

Question 18 (zip, 4 %)

```
list(zip([1,2], zip([3,4], [5,6])))
```

What is the value of the above expressions?

Hvilken værdi har ovenstående udsagn?

- ☐ A 1%
[(1, 2), (3, 4), (5,6)]
- ☐ B 3%
[1, 3, 5, 2, 4, 6]
- ☐ C 1%
(1, 3, 5), (2, 4, 6)
- ☒ D 94%
[(1, (3, 5)), (2, (4, 6))]
- ☐ E 0%
[((1, 3), 5), ((2, 4), 6)]

Question 19 (numpy, 4 %)

```
import numpy as np
print(np.array([1,2,3]) + np.array([4,5,6]))
print(np.array([1,2,3]) * np.array([4,5,6]))
print(3 * np.array([1,2,3]))
print(np.array([1,2,3]) @ np.array([4,5,6]))
```

What does the above program print?

Hvad udskriver ovenstående program?

- ☐ A 1%
[1 2 3 4 5 6]
32
[1 2 3 1 2 3 1 3 3]
4
- ☐ B 4%
[1 2 3 4 5 6]
[4 10 18]
[1 2 3 1 2 3 1 3 3]
4
- ☒ C 75%
[5 7 9]
[4 10 18]
[3 6 9]
32
- ☐ D 3%
[1 2 3 4 5 6]
[4 10 18]
[3 6 9]
32

Question 20 (lambda, 4 %)

```
def f(g, h, L):
    return [g(x) if x % 2 == 0 else h(x) for x in L]

print(f(lambda x : 3 * x, lambda x : 2 * x, [1, 2, 3, 5]))
```

What list does the above program print?

Hvilken liste udskriver ovenstående program?

- | | | | | |
|-------------------------------|-------------------------------|-------------------------------|---|-------------------------------|
| [1,0,1,1] | [3,6,9,10] | [3,4,9,15] | [2,6,6,10] | [2, 6, 6, 15] |
| <input type="checkbox"/> A 0% | <input type="checkbox"/> B 0% | <input type="checkbox"/> C 3% | <input checked="" type="checkbox"/> D 92% | <input type="checkbox"/> E 2% |

Question 21 (Assertions, 4 %)

```
def f(x):
    assert type(x) == int

    return 3 * x
```

What does each of the below function calls return?

Hvad returnerer hvert af nedenstående funktionskald?

	6	6.0	'222'	AssertionError
f(2)	<input checked="" type="checkbox"/> 85%	<input type="checkbox"/> 1%	<input type="checkbox"/> 0%	<input type="checkbox"/> 12%
f(2.0)	<input type="checkbox"/> 0%	<input type="checkbox"/> 18%	<input type="checkbox"/> 0%	<input checked="" type="checkbox"/> 78%
f('2')	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input type="checkbox"/> 15%	<input checked="" type="checkbox"/> 81%

Question 22 (Inheritance, 5 %)

```
class A:
    def say(self):
        print("Hello")

class B:
    def greet(self):
        print("Welcome")

class C(A, B):
    pass
```

What does each of the below metode calls print?

Hvad udskriver hvert af nedenstående metodekald?

	Hello	Welcome	AttributeError
A().say()	<input checked="" type="checkbox"/> 98%	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%
B().say()	<input type="checkbox"/> 1%	<input type="checkbox"/> 2%	<input checked="" type="checkbox"/> 95%
C().say()	<input checked="" type="checkbox"/> 84%	<input type="checkbox"/> 0%	<input type="checkbox"/> 3%
A().greet()	<input type="checkbox"/> 0%	<input type="checkbox"/> 0%	<input checked="" type="checkbox"/> 95%
B().greet()	<input type="checkbox"/> 0%	<input checked="" type="checkbox"/> 95%	<input type="checkbox"/> 0%
C().greet()	<input type="checkbox"/> 0%	<input checked="" type="checkbox"/> 84%	<input type="checkbox"/> 2%

Question 23 (Decorator, 4 %)

```
def d(x):  
    def y(z):  
        print(type(x))  
        x(z+z)  
  
    return y  
  
@d  
def f(x):  
    print("value = " + str(x))  
  
f(21)
```

What does the above program print?

Hvad udskriver ovenstående program?

- | | |
|----------------------------------|---|
| <class 'int'>
value = 21 | <input type="checkbox"/> 13% |
| <class 'int'>
value = 42 | <input type="checkbox"/> 7% |
| <class 'function'>
value = 21 | <input type="checkbox"/> 9% |
| <class 'function'>
value = 42 | <input checked="" type="checkbox"/> 49% |
| <class 'str'>
value = 21 | <input type="checkbox"/> 1% |
| <class 'str'>
value = 42 | <input type="checkbox"/> 1% |