Facit och kommentarer till prov 2022-03-14 i DA2004

Del A: flervalsfrågor

1. B
2. C
3. D
4. A, B, C
5. C
6. D, E
7. D
8. A
9. D
10. E

Del B: kodfrågor

11. Möjlig lösning:

```
def divisors(v):

    divs = []

    for x in range(1,v):  # the bug was that range started at 0
        if v % x == 0:    # this led to an error here
            divs.append(x)

    return divs

print(divisors(42))
print(divisors(62))
```

12. Möjlig lösning:

```
def exponents(x,mylist):
    return list(map(lambda y: x ** y,mylist))

print(exponents(2,[1,2,3]))
print(exponents(3,[5,2,1,3]))
```

    Missar man att konvertera till en lista får man ändå poäng så länge man har med **map** och **lambda** på rätt sätt.

13. Möjlig lösning:

```
def word_length(f):
    out = ""

    with open(f) as h:
        for l in h:
            for w in l.split():
```

```
                out += str(len(w)) + " "
            out += "\n"

    print(out)
```

14. Möjlig lösning:

```
letters = { chr(x + 96) : x for x in range(1,27) }
```

15. Möjlig lösning:

```
def sum_string(s,d):
    out = 0

    for x in s:
        out += d[x]

    return out
```

16. Möjlig lösning:

```
def even_odd_sum(mylist):
    if mylist == []:
        return 0
    else:
        x = mylist[0]
        if x % 2 == 0:
            return even_odd_sum(mylist[1:]) + x
        else:
            return even_odd_sum(mylist[1:]) - x
```

17. Möjlig lösning:

```
class Orc:

    def __init__(self,hp,strength):
        self.hp = hp
        self.strength = strength

    def beats(self,other):
        return self.strength >= other.strength

orc1 = Orc(10,20)
orc2 = Orc(10,10)
print(orc1.beats(orc2))
```

18. Möjlig lösning:

```
class UrukHai(Orc):

    master = "Saruman"

    def __init__(self,hp,strength):
        super().__init__(hp * 2,strength * 2)

urukhai = UrukHai(15,15)
print(urukhai.beats(orc1))
print(orc2.beats(urukhai))
print(urukhai.master)
```

19. Möjlig lösning:

```
from random import randint

while True:

    x = randint(0,10)
    y = randint(0,10)

    p = input("What is " + str(x) + " * " + str(y) + "? ")

    if p == '':
        print("Goodbye! The correct answer was " + str(x * y))
        break

    try:
        if x * y == int(p):
            print("Correct!")
        else:
            print("Incorrect! The correct answer is " + str(x * y))
    except:
        print("Input is not a number! The correct answer is " + str(x * y))
```