



UNIVERSITETET I BERGEN

LØKKER

INF100

HØST 2022

Torstein Strømme

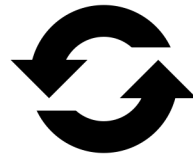
WHILE

```
bla()  
bla()
```

boolsk uttrykk

```
while <betingelse>:
```

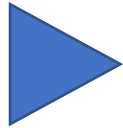
```
    bla()  
    bla()  
    bla()
```



så lenge betingelsen er True

```
bla()  
bla()
```

WHILE



```
s = "z"  
while s != "zzzz":  
    print(s)  
    s += "z"  
  
print("Ferdig!")
```

VARIABLER


VERDIER

"z"
"zzzz"

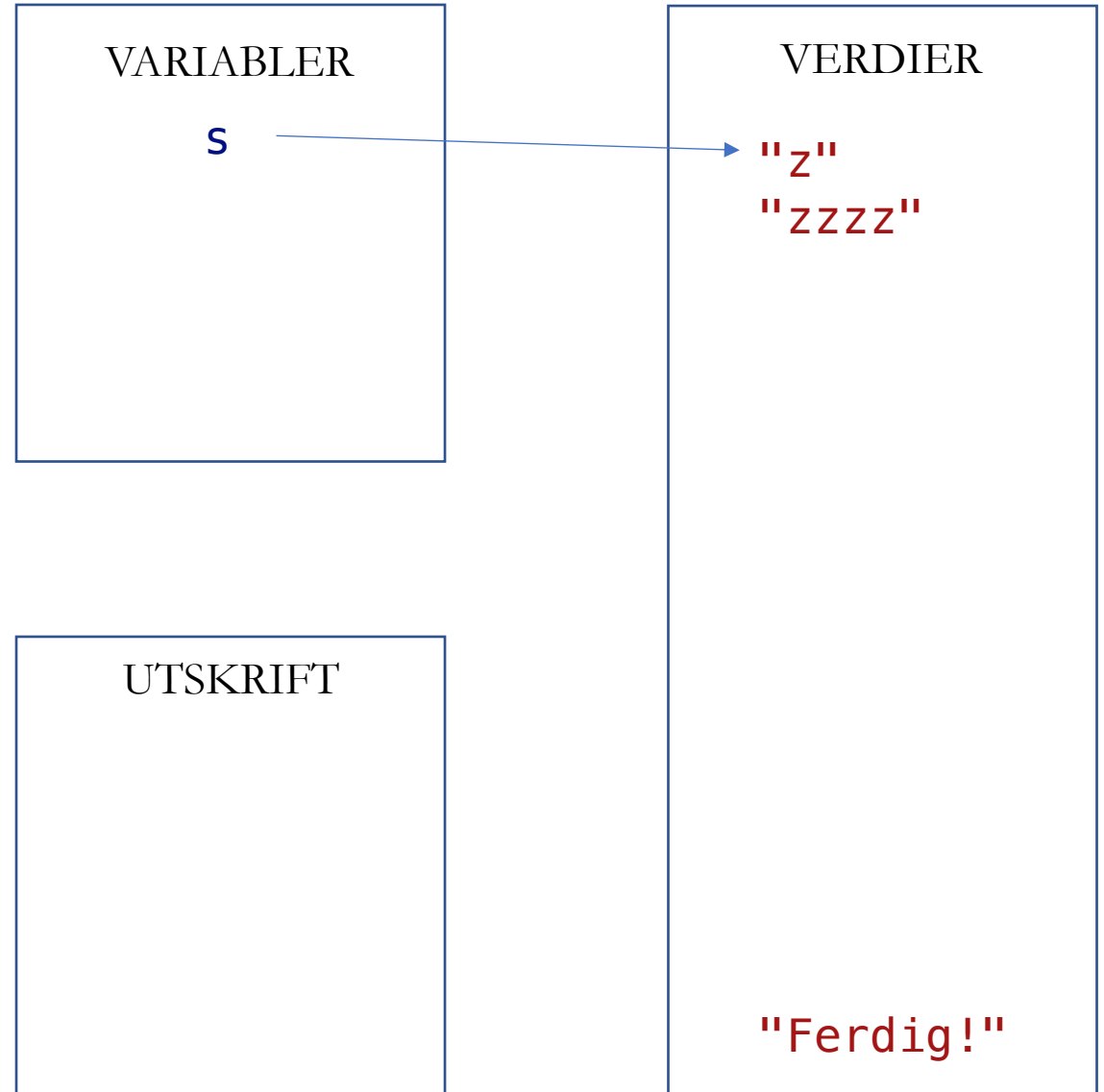
UTSKRIFT

"Ferdig!"

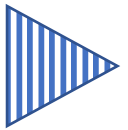
WHILE



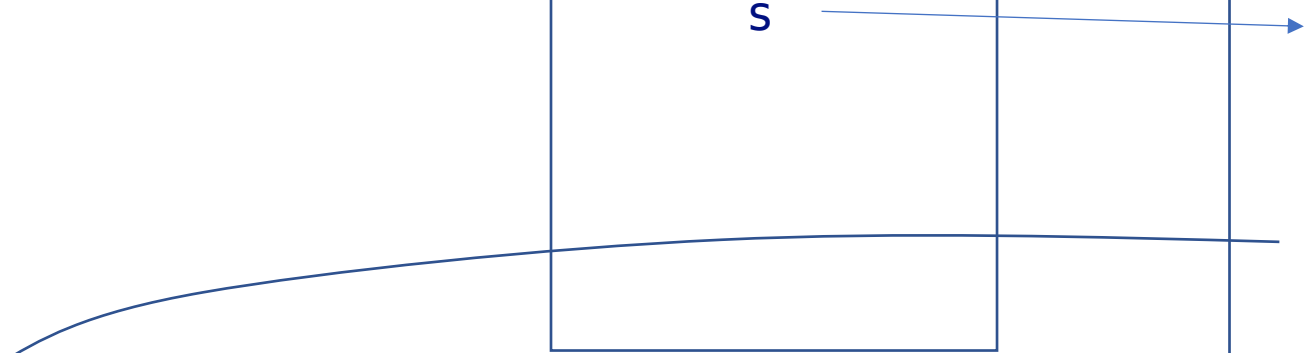
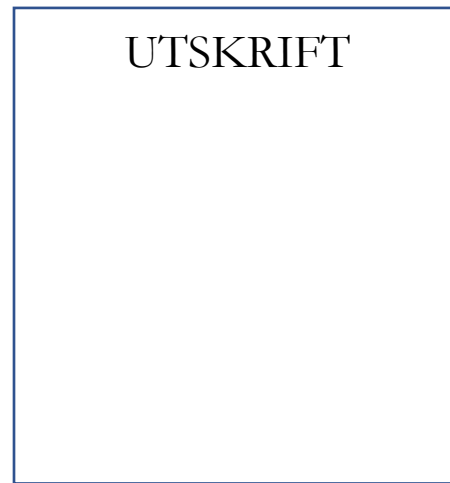
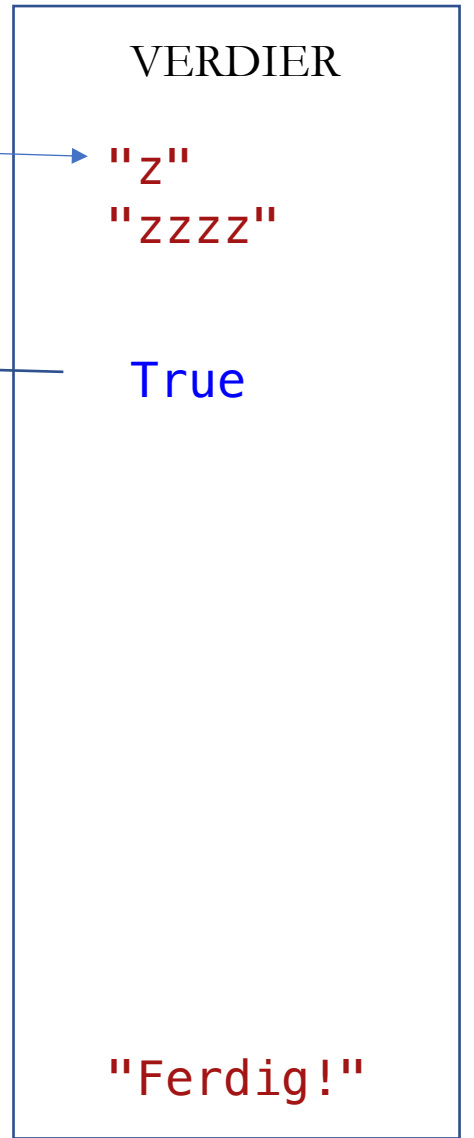
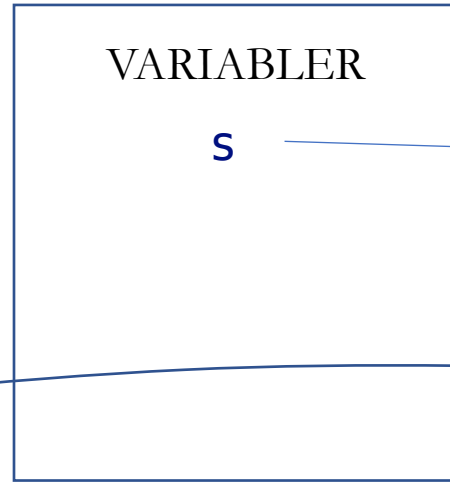
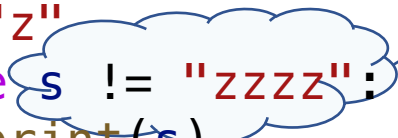
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    s += "z"  
  
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```



WHILE

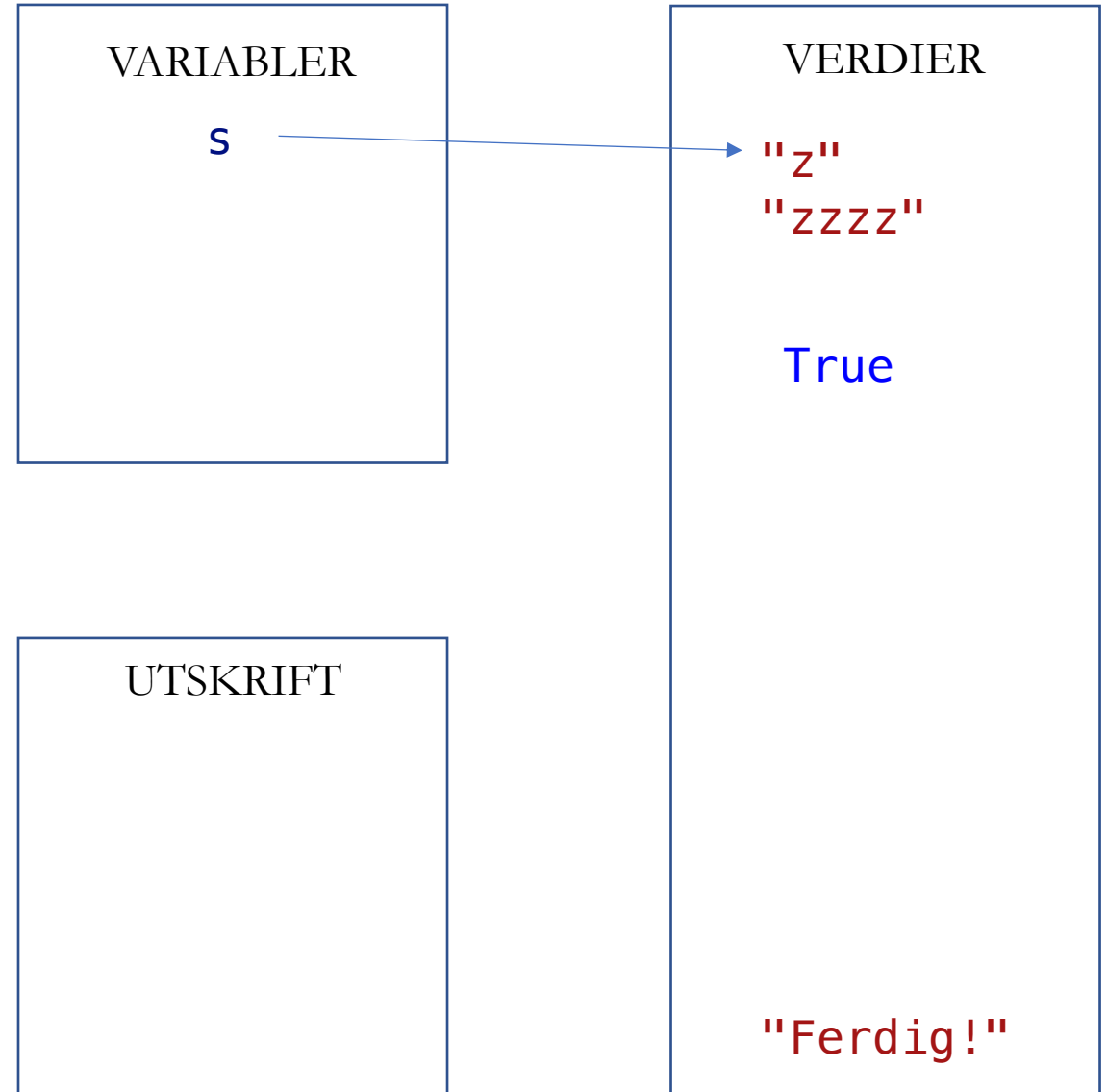


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WHILE

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WHILE

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s = "z"  
while s != "zzzz":  
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    s += "z"  
print("Ferdig!")
```

VARIABLER

s

VERDIER

"z"

"zzzz"


True

UTSKRIFT

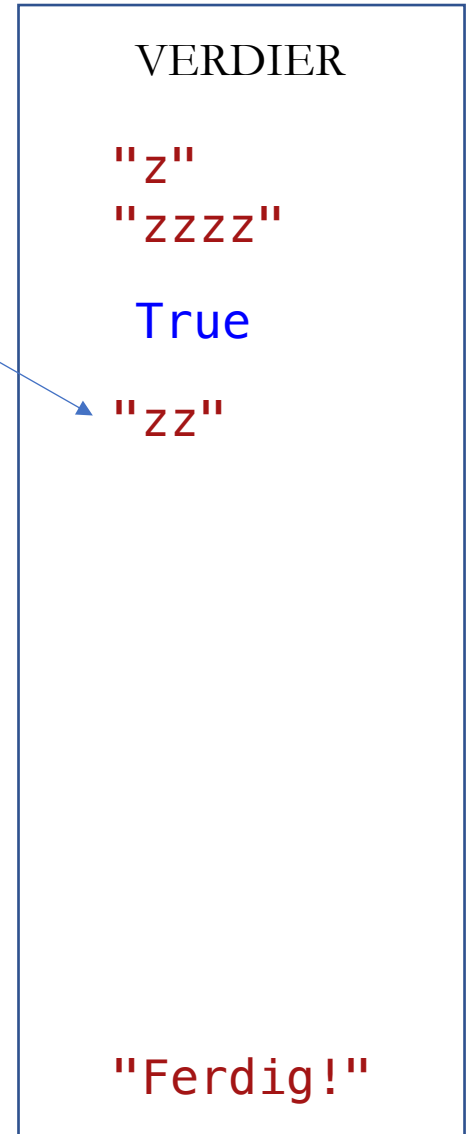
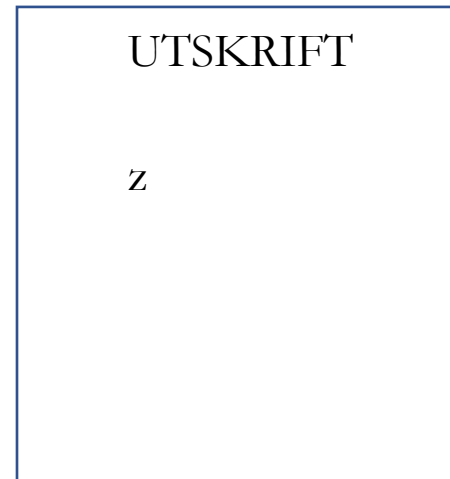
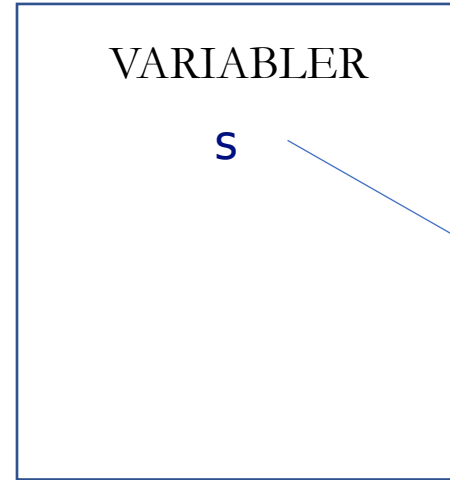
z

"Ferdig!"

WHILE



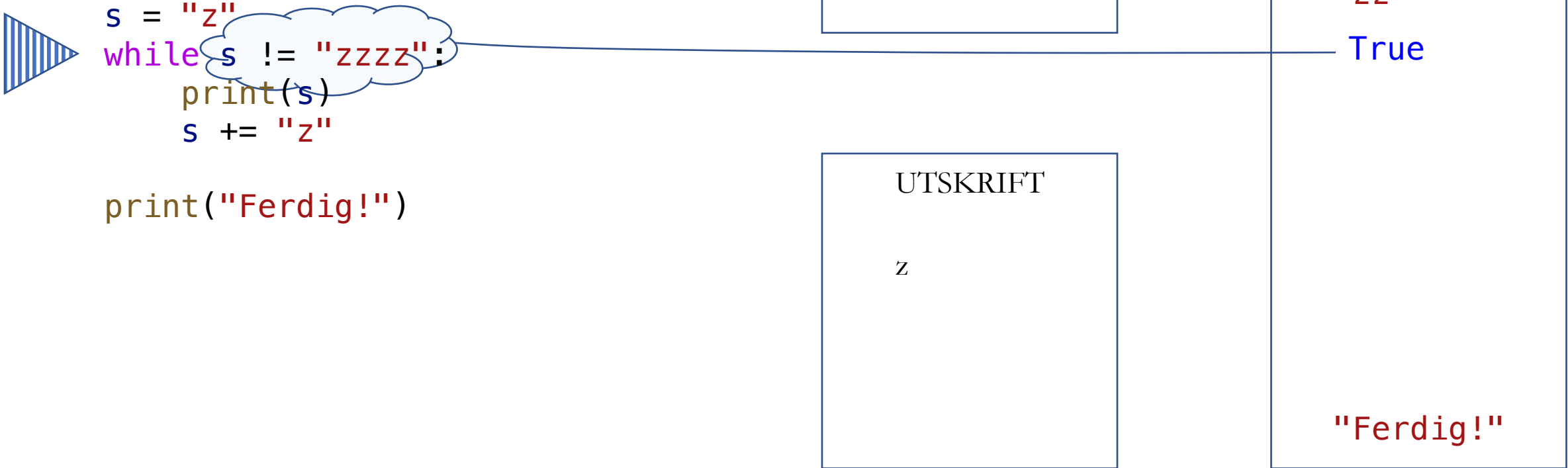
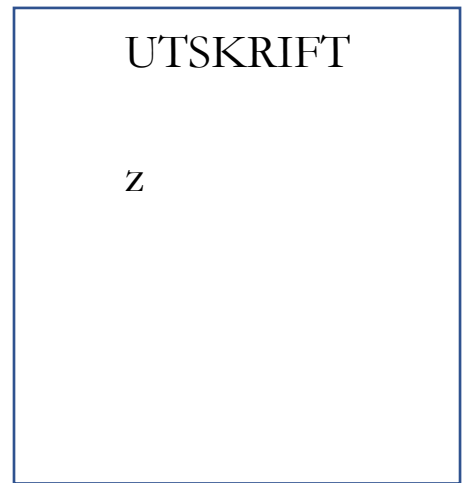
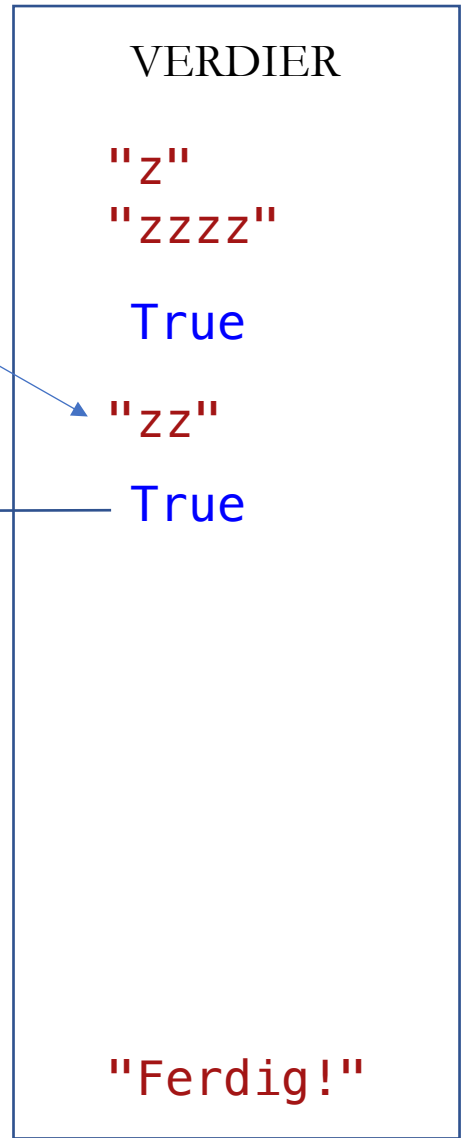
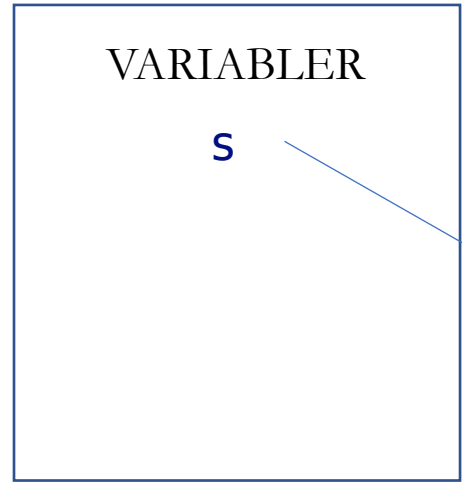
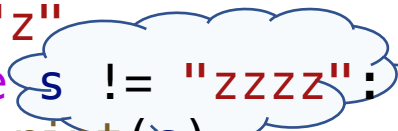
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    s += "z"  
  
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```



WHILE

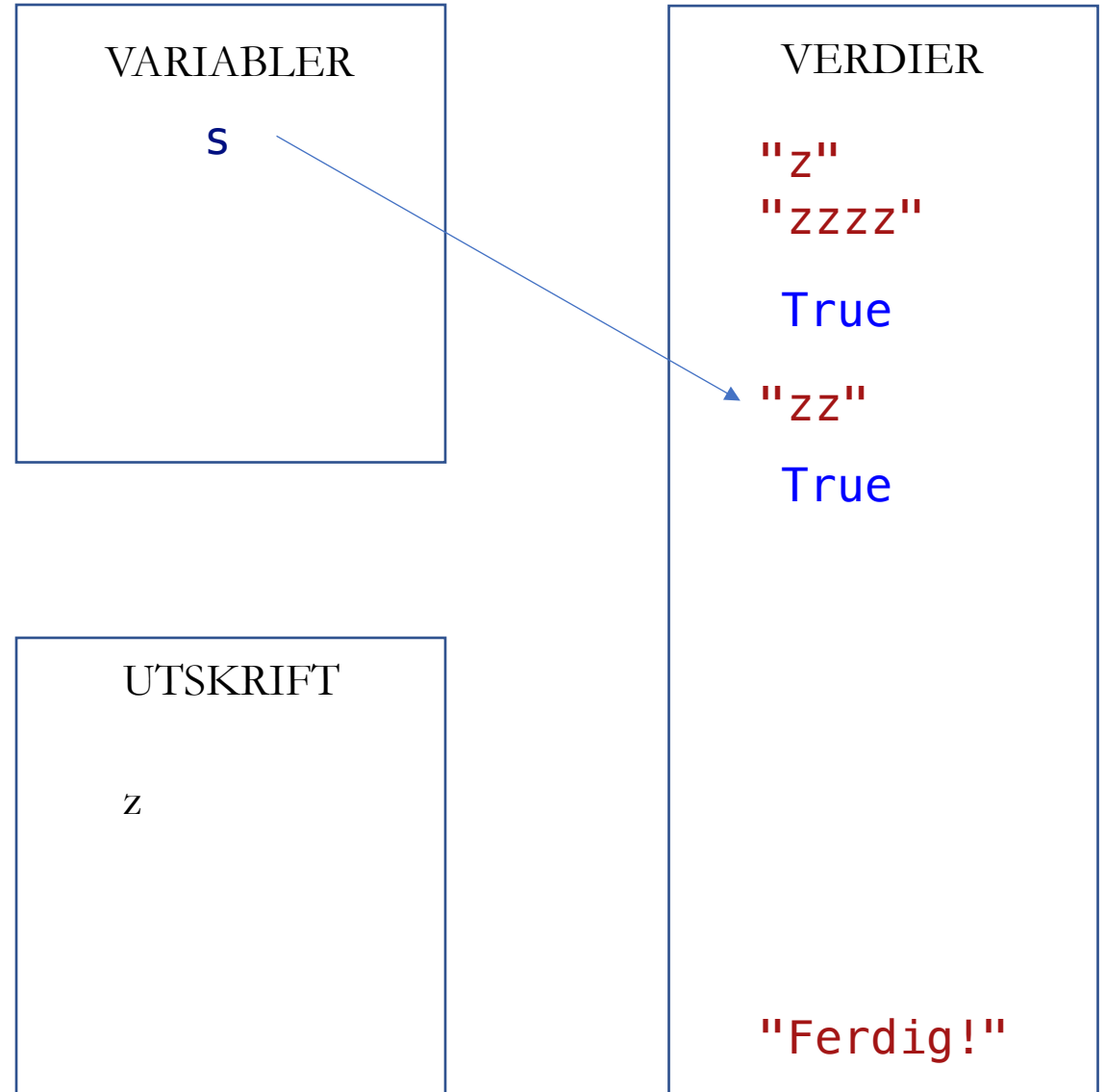


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    s += "z"  
  
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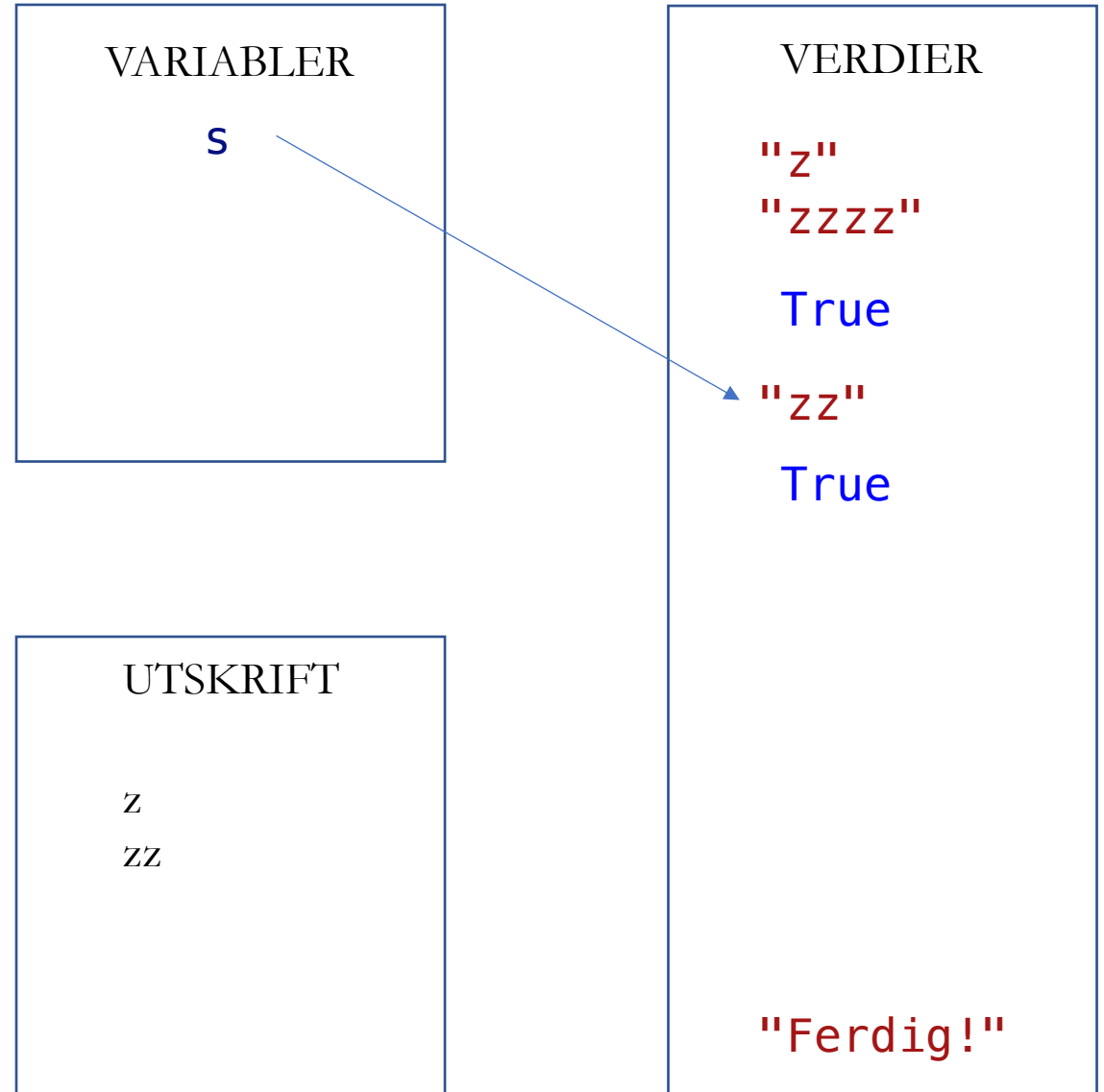
WHILE

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WHILE

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WHILE



```
s = "z"  
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    print(s)  
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print("Ferdig!")
```

VARIABLER

s

UTSKRIFT

z

zz

VERDIER

"z"

"zzzz"

True

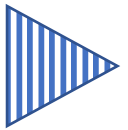
"zz"

True

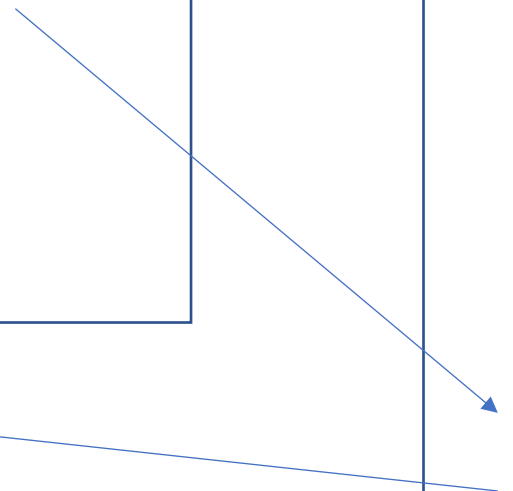
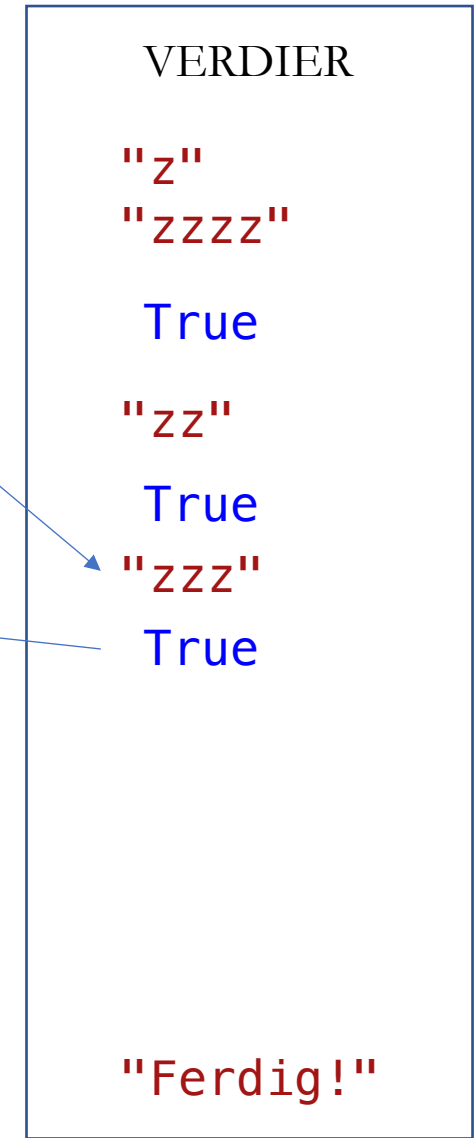
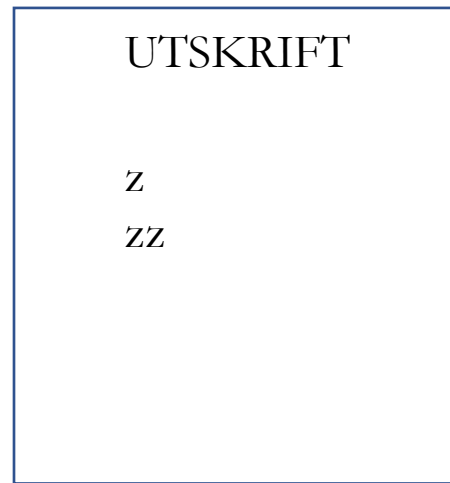
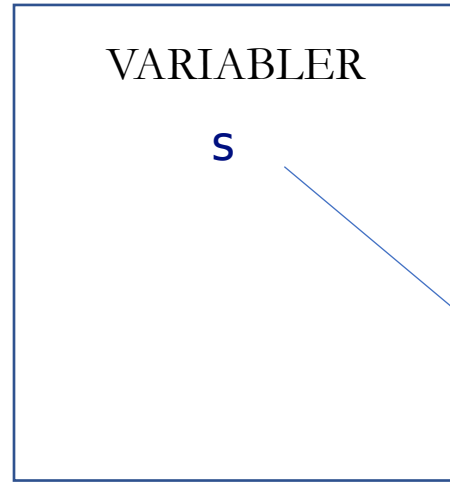
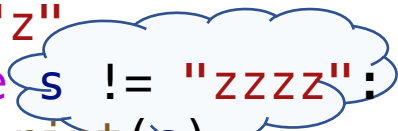
"zzz"

"Ferdig!"

WHILE

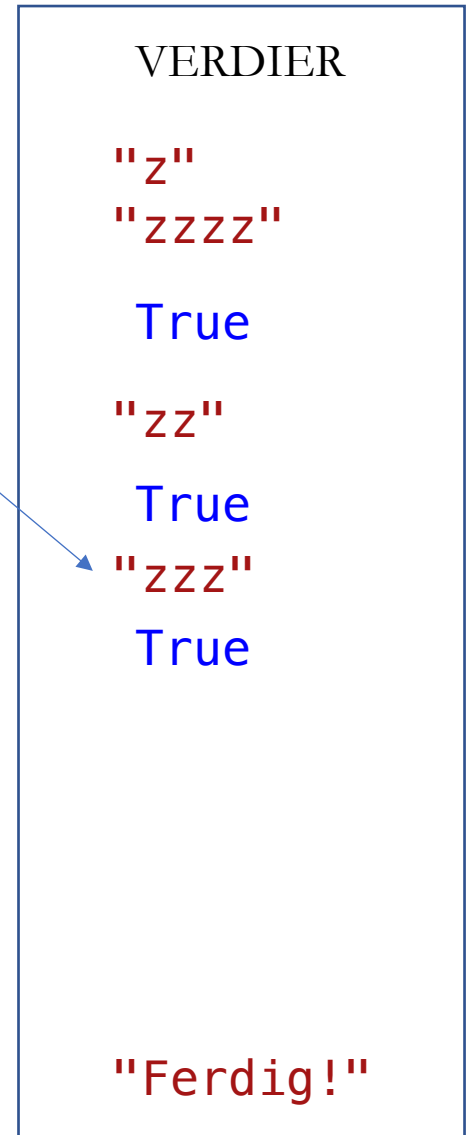
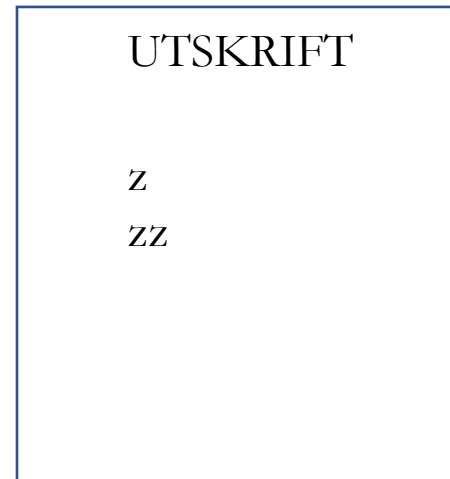
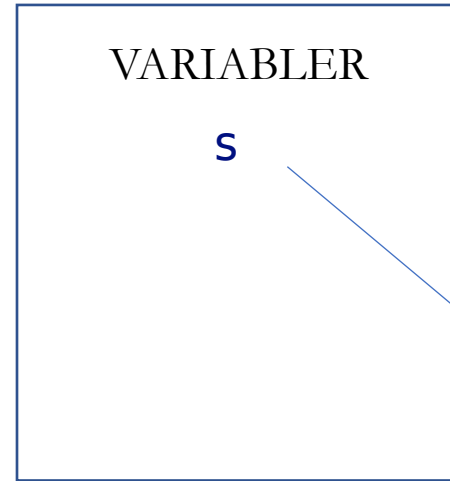


```
s = "z"  
while s != "zzzz":  
    print(s)  
    s += "z"  
  
print("Ferdig!")
```



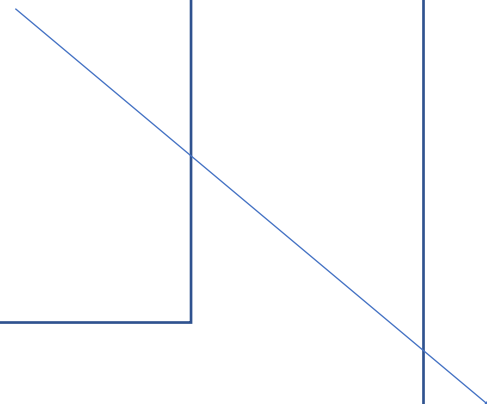
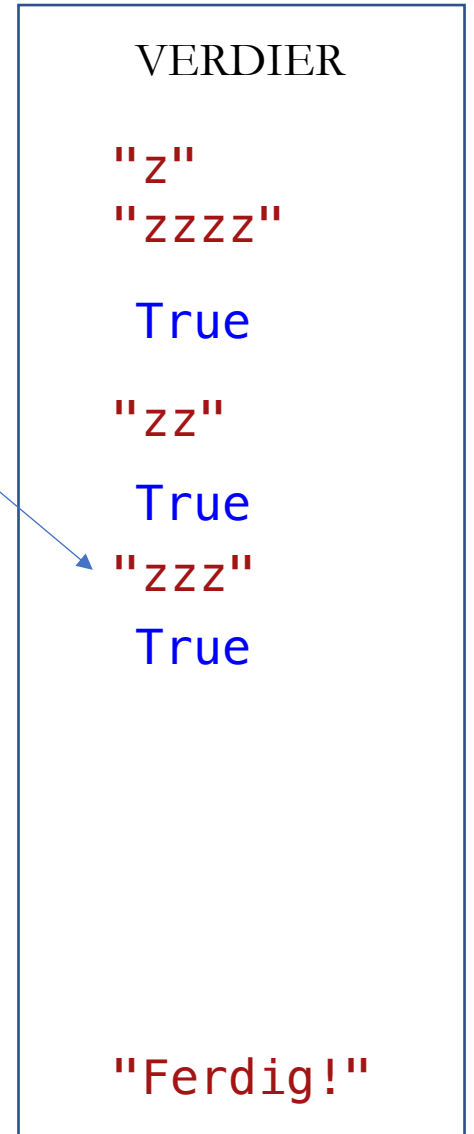
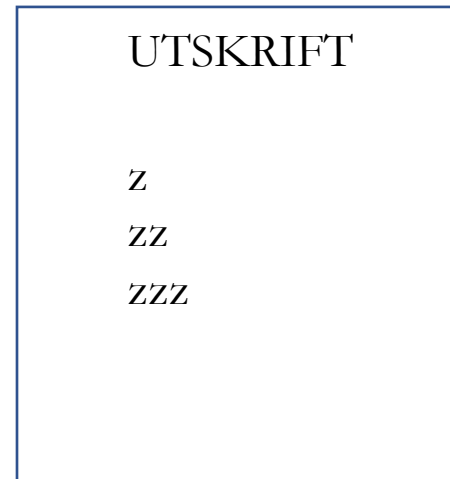
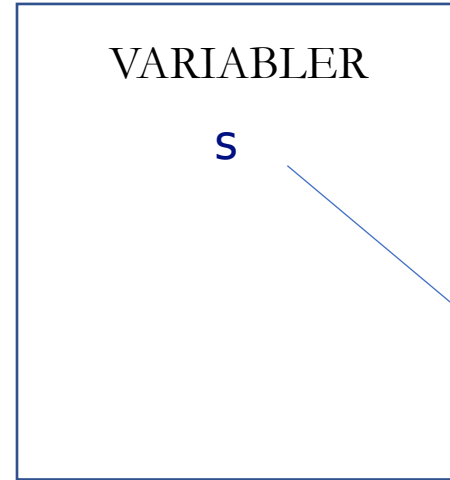
WHILE

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WHILE

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    s += "z"  
print("Ferdig!")
```



WHILE



```
s = "z"  
while s != "zzzz":  
    print(s)  
    s += "z"  
  
print("Ferdig!")
```

VARIABLER

s

UTSKRIFT

z

zz

zzz

VERDIER

"z"

"zzzz"

True

"zz"

True

"zzz"

True

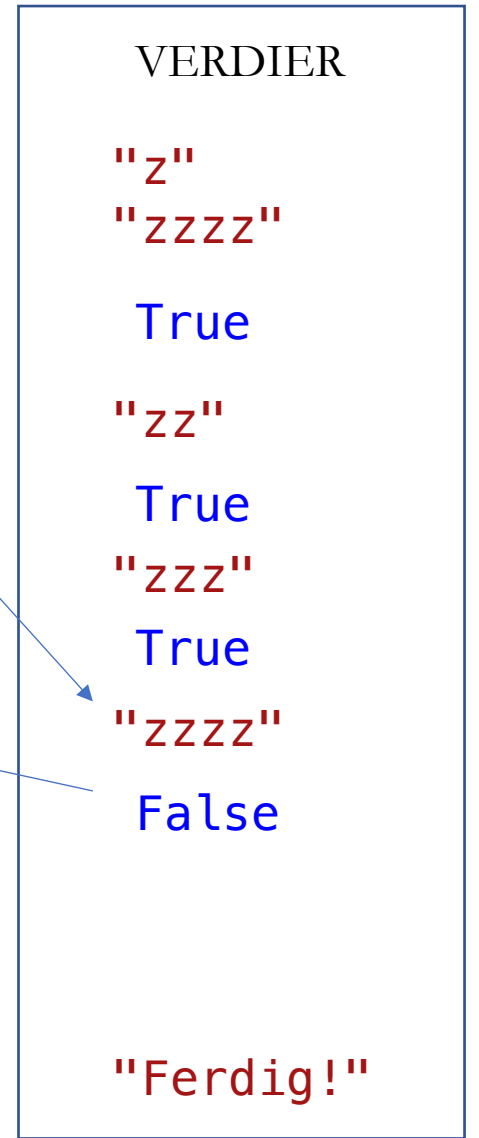
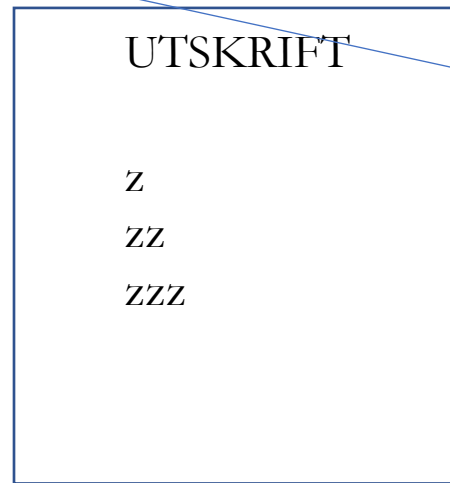
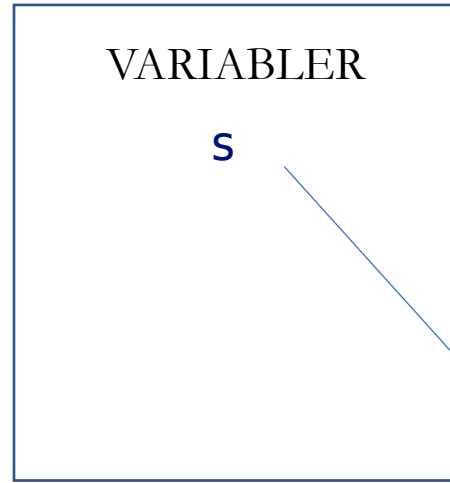
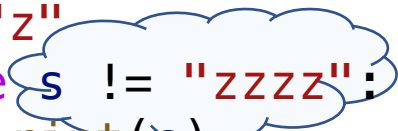
"zzzz"

"Ferdig!"

WHILE



```
s = "z"  
while s != "zzzz":  
    print(s)  
    s += "z"  
  
print("Ferdig!")
```



WHILE

```
s = "z"  
while s != "zzzz":  
    print(s)  
    s += "z"
```



```
print("Ferdig!")
```

VARIABLER

s

UTSKRIFT

z

zz

zzz

VERDIER

"z"

"zzzz"

True

"zz"

True

"zzz"

True

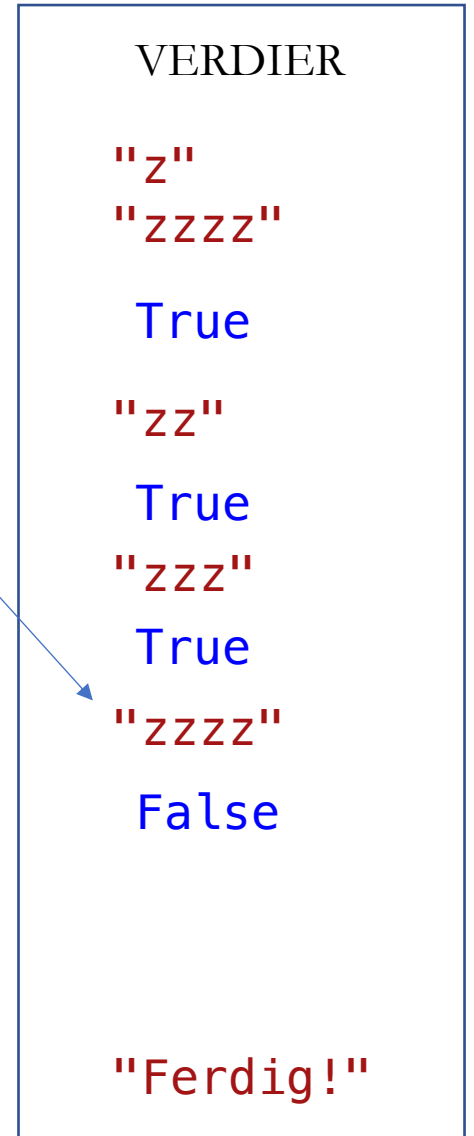
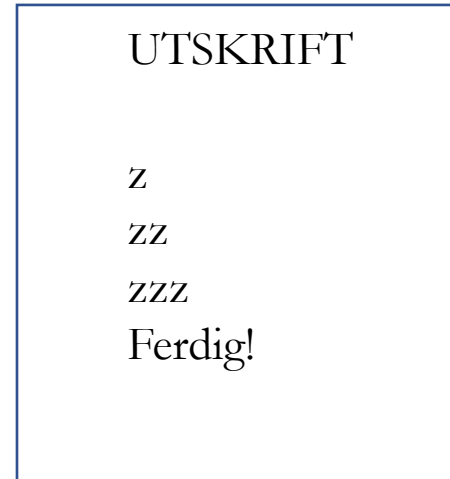
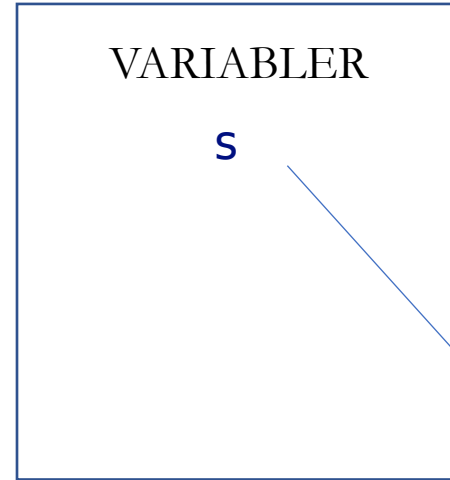
"zzzz"

False

"Ferdig!"

WHILE

```
s = "z"  
while s != "zzzz":  
    print(s)  
    s += "z"  
  
print("Ferdig!")
```



FRITT FALL

$$t = \sqrt{\frac{2h}{g}}$$



FOR

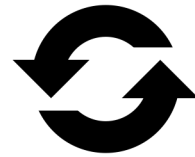
iterand/løkke-variabel

```
bla()  
bla()
```

```
for i in <samling>:  
    bla()  
    bla(i)  
    bla()
```

f. eks

- range
- streng
- tuple
- liste



én gang for hvert element i samlingen

```
bla()  
bla()
```

FOR

- Eksempel med streng
- Filtrering/telling

RANGE

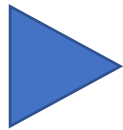
`range(5)` → 0, 1, 2, 3, 4

`range(10, 14)` → 10, 11, 12, 13

`range(3, 15, 3)` → 3, 6, 9, 12

`range(15, 3, -2)` → 15, 13, 11, 9, 7, 5,

FOR



```
for i in range(1, 4):  
    print("z" * i)
```

```
print("Ferdig")
```

VARIABLER

UTSKRIFT

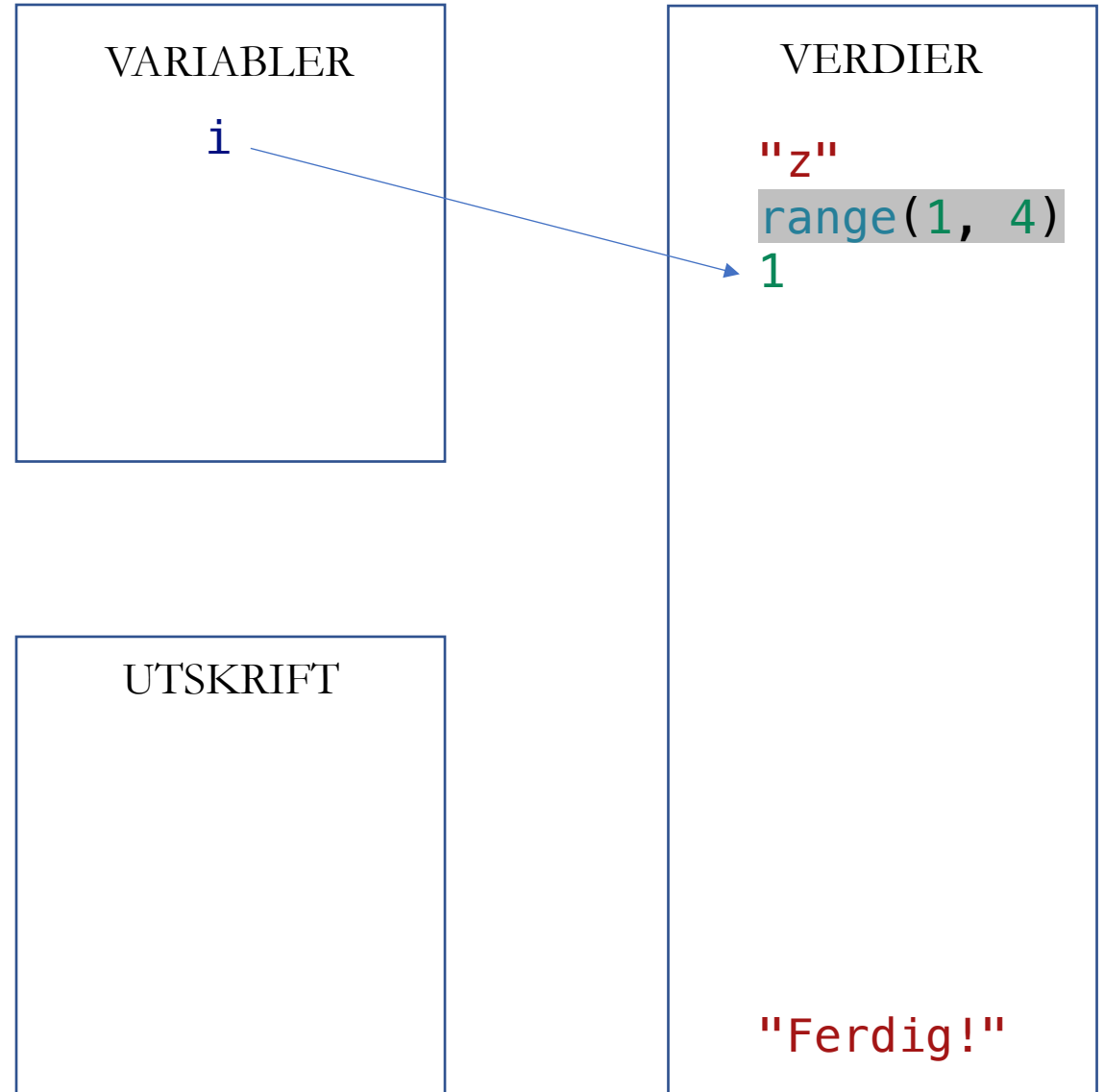
VERDIER

```
"z"  
range(1, 4)
```

```
"Ferdig!"
```

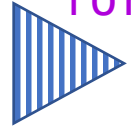
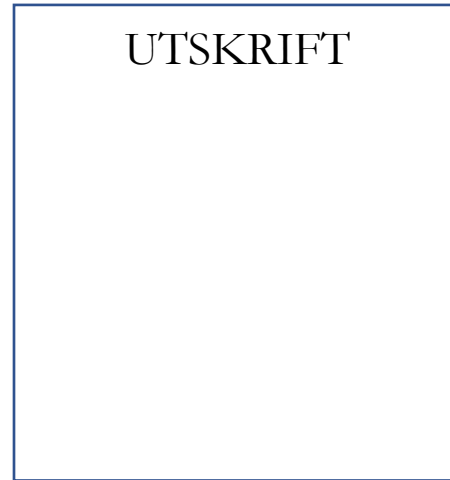
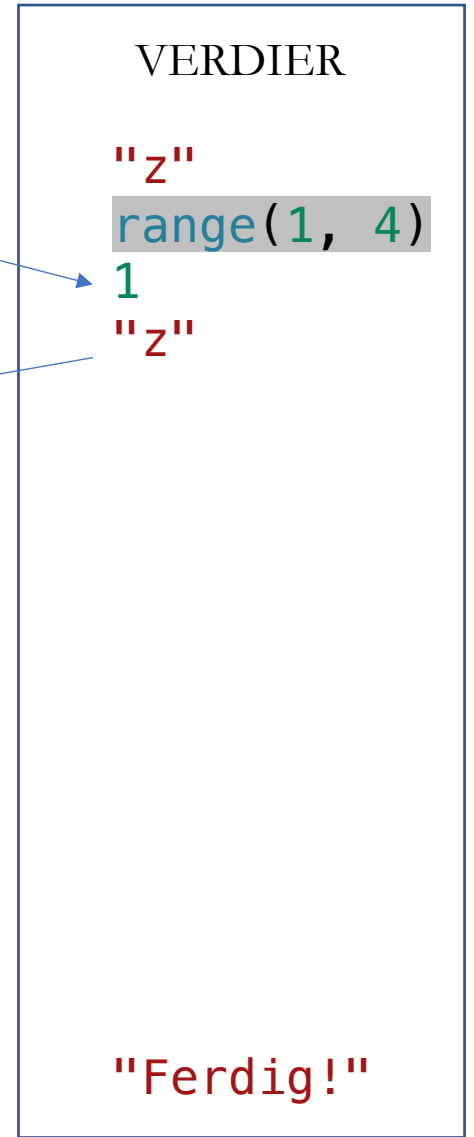
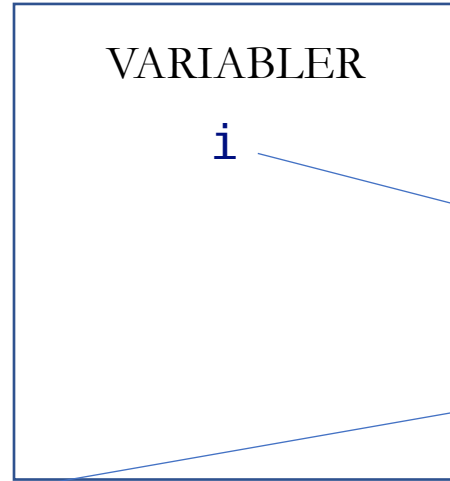

FOR

```
▶ for i in range(1, 4):  
    print("z" * i)  
print("Ferdig")
```



FOR

```
for i in range(1, 4):  
    print("z" * i)  
print("Ferdig")
```



VARIABLER

i

VERDIER

"z"

range(1, 4)

1

"z"

UTSKRIFT

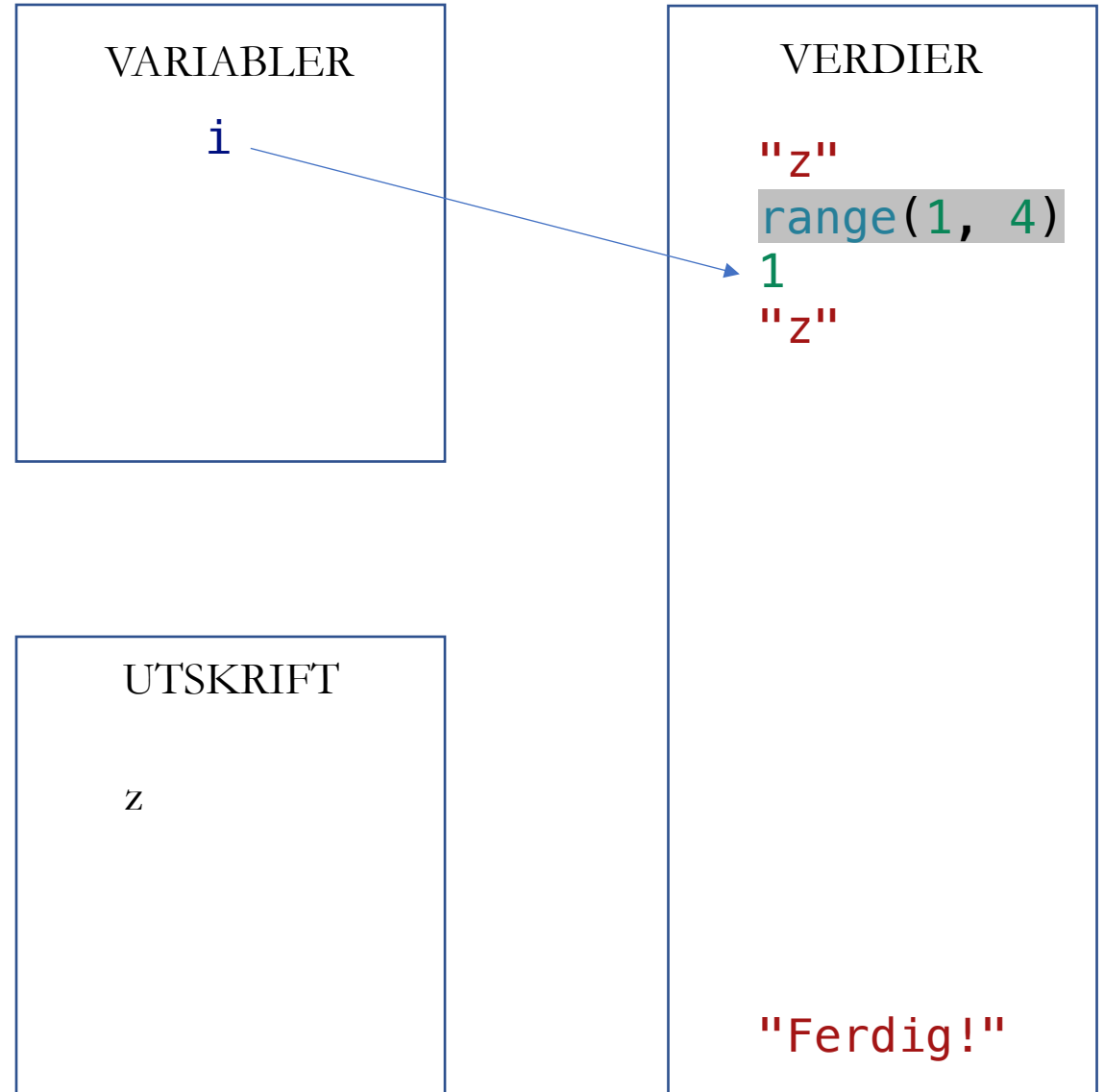
"Ferdig!"

FOR



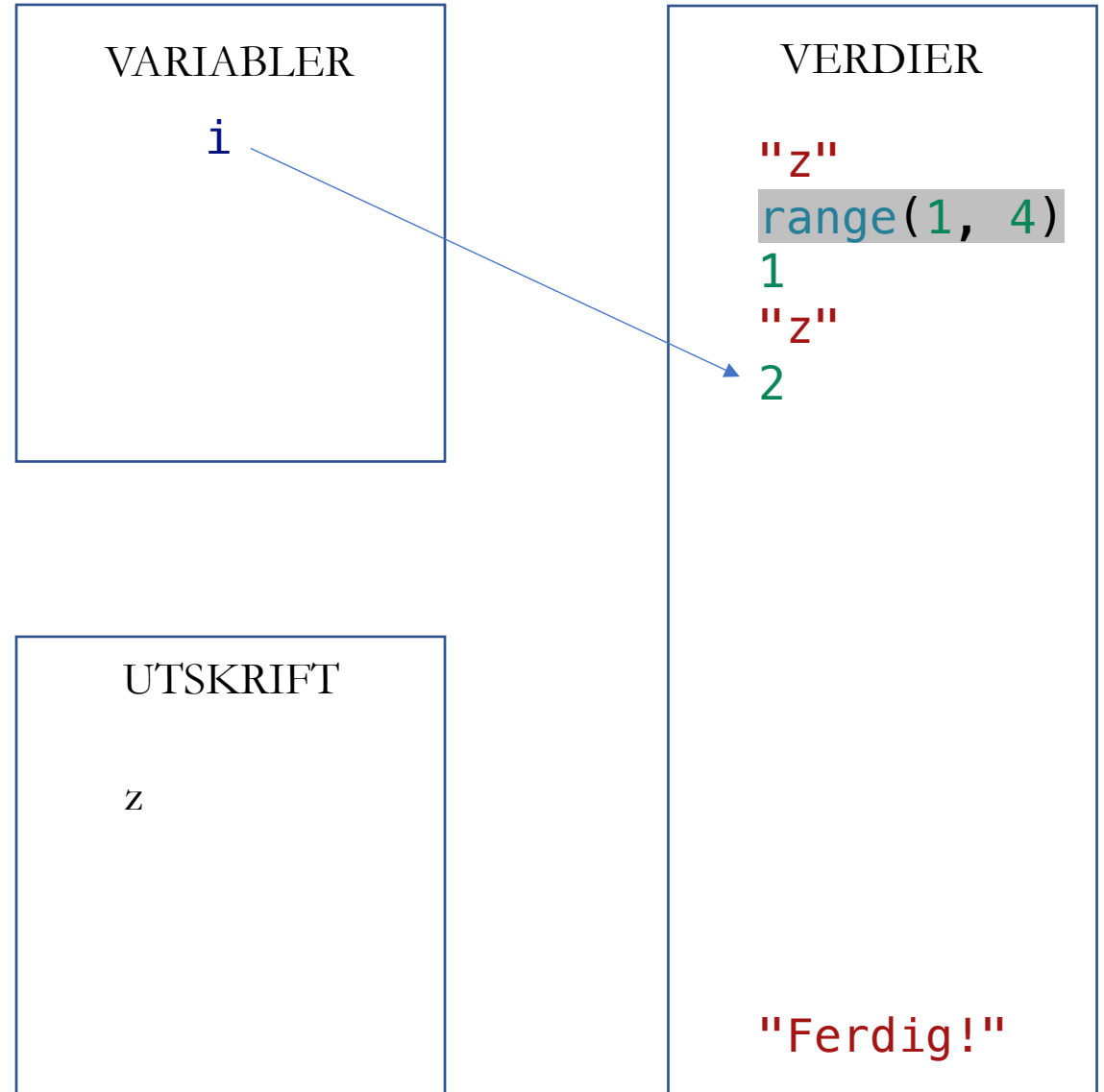
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for i in range(1, 4):  
    print("z" * i)
```

```
print("Ferdig")
```



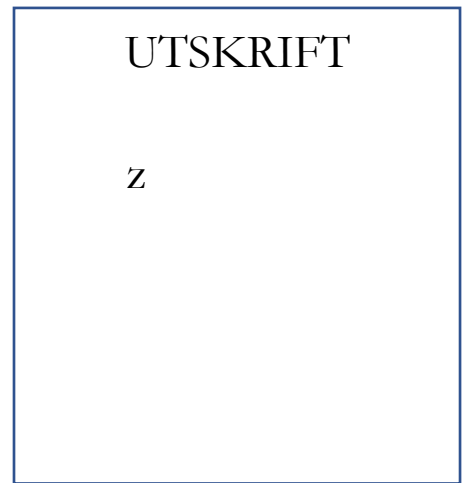
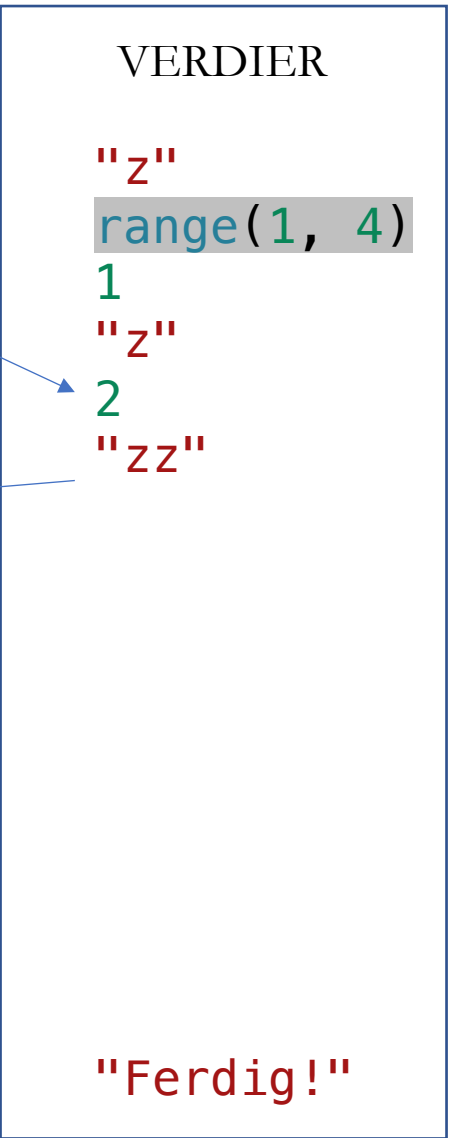
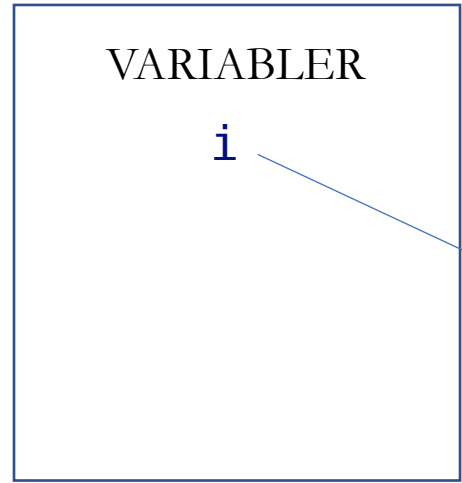
FOR

```
▶ for i in range(1, 4):  
    print("z" * i)  
print("Ferdig")
```



FOR

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for i in range(1, 4):  
    print("z" * i)  
print("Ferdig")
```

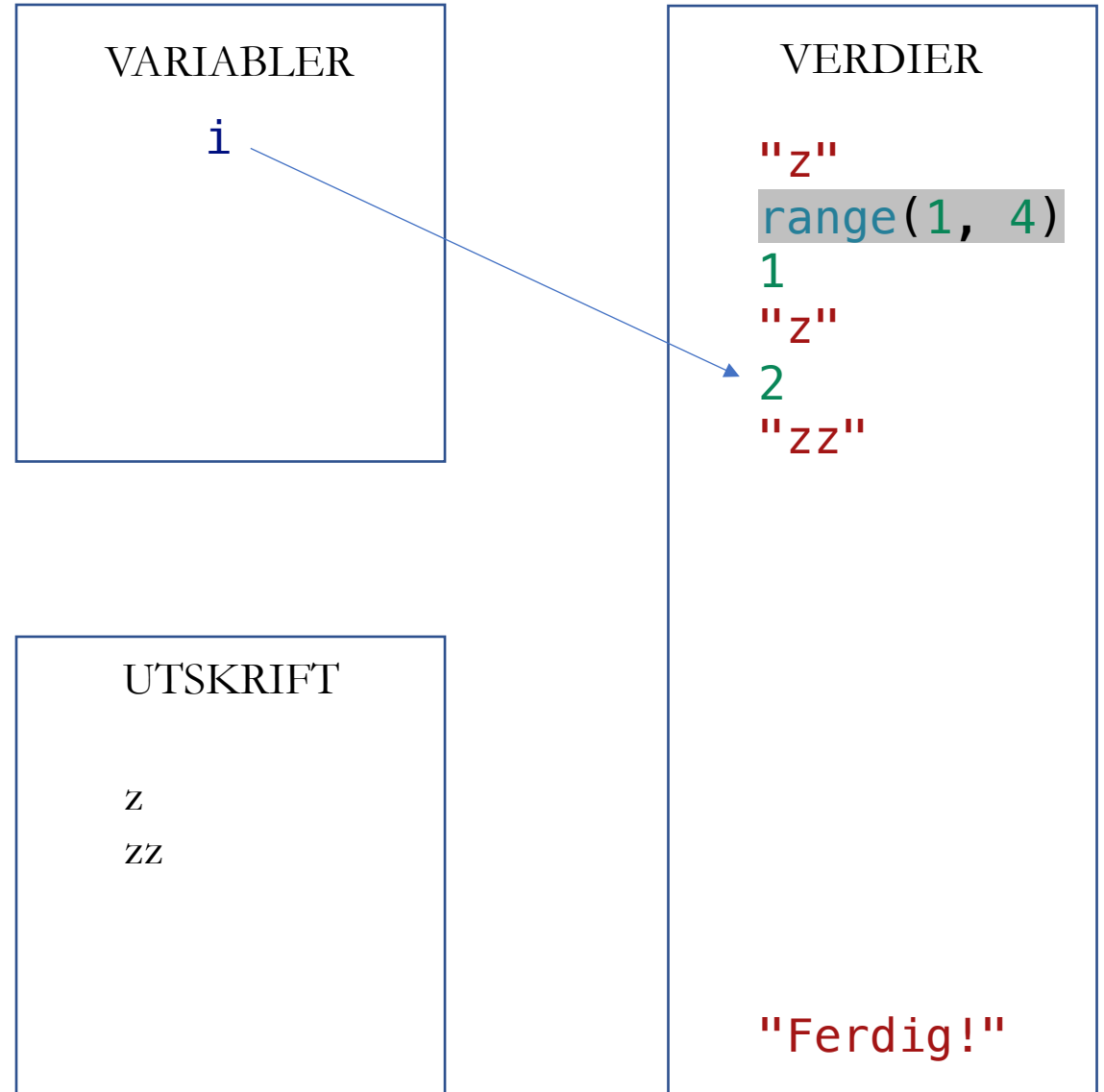


FOR



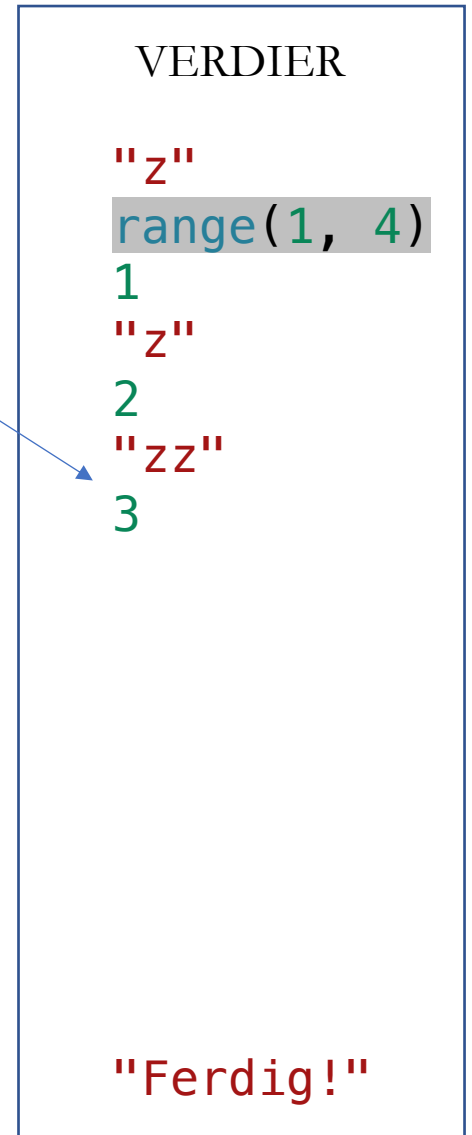
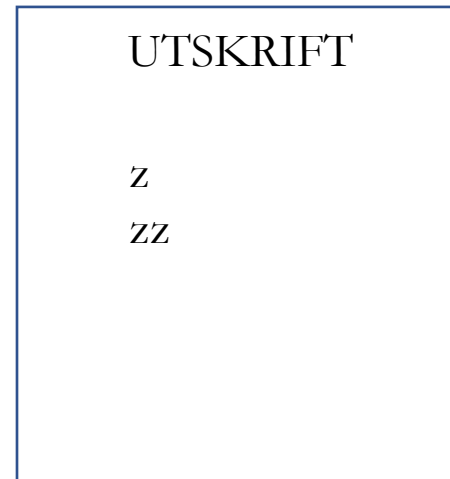
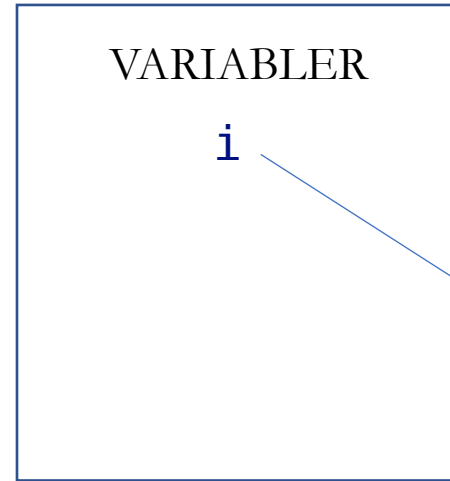
```
for i in range(1, 4):  
    print("z" * i)
```

```
print("Ferdig")
```



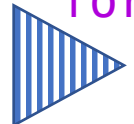
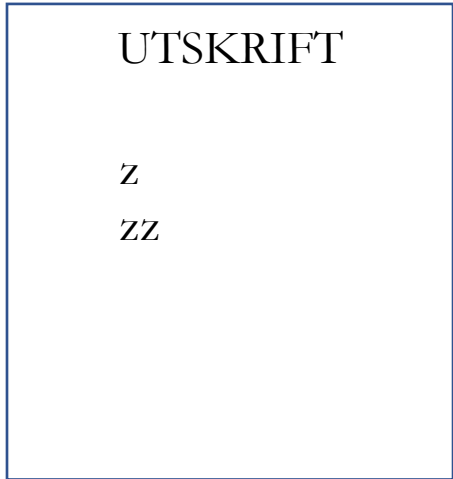
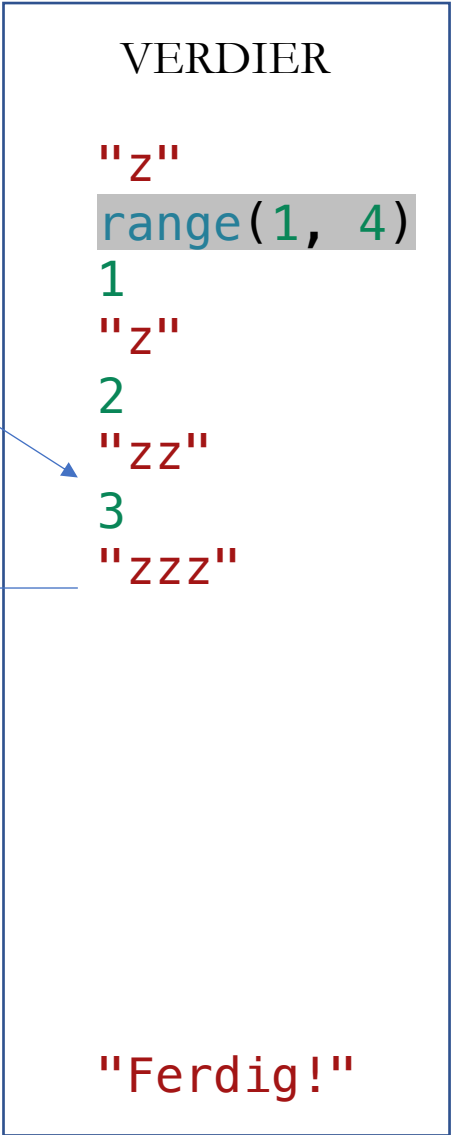
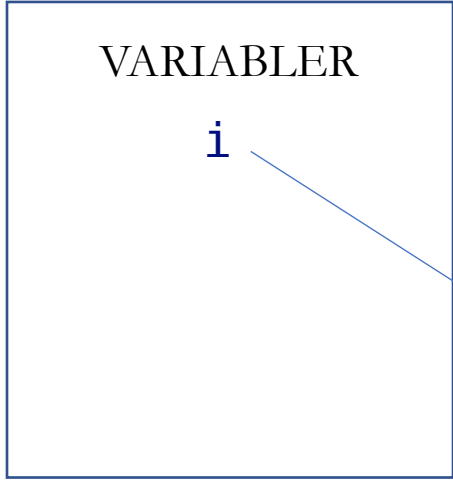
FOR

```
▶ for i in range(1, 4):  
    print("z" * i)  
print("Ferdig")
```



FOR

```
for i in range(1, 4):  
    print("z" * i)  
print("Ferdig")
```



VARIABLER

i

VERDIER

```
"z"  
range(1, 4)  
1  
"z"  
2  
"zz"  
3  
"zzz"
```

UTSKRIFT

```
z  
zz
```

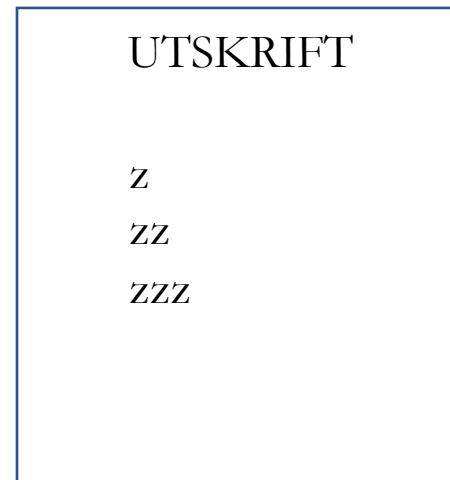
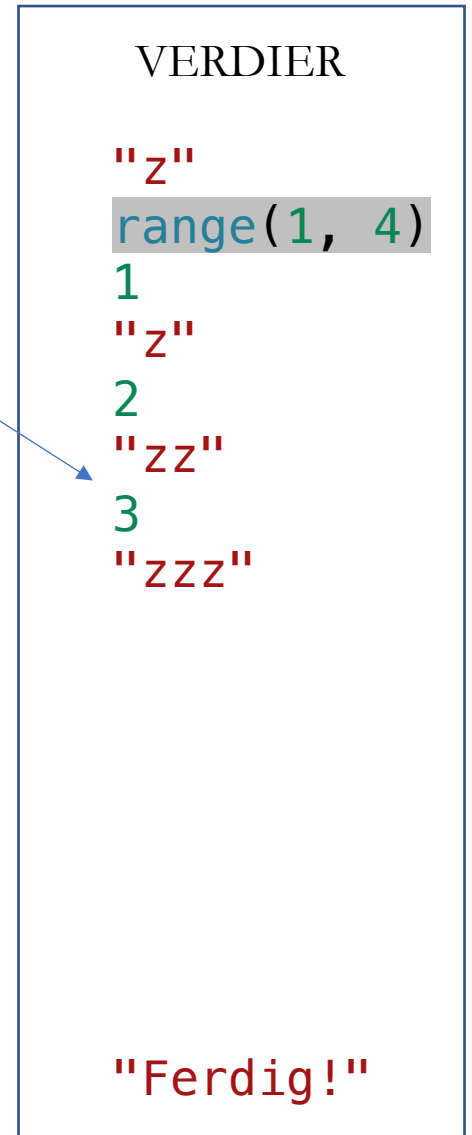
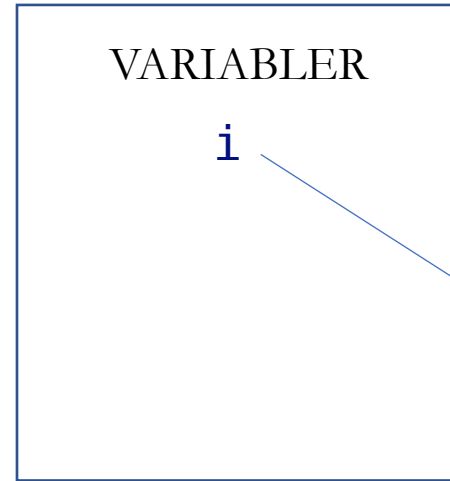
"Ferdig!"

FOR



```
for i in range(1, 4):  
    print("z" * i)
```

```
print("Ferdig")
```



FOR

```
for i in range(1, 4):  
    print("z" * i)
```



```
print("Ferdig")
```

VARIABLER

i

VERDIER

"z"

`range(1, 4)`

1

"z"

2

"zz"

3

"zzz"

UTSKRIFT

z

zz

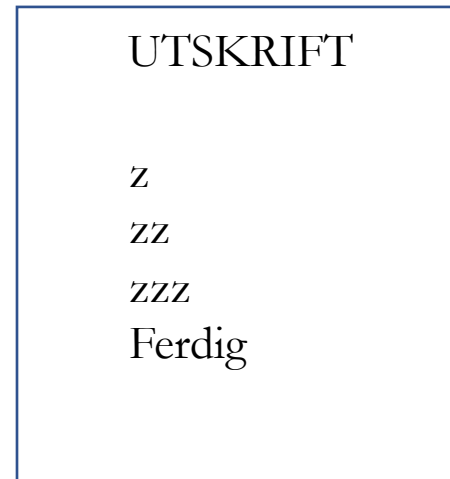
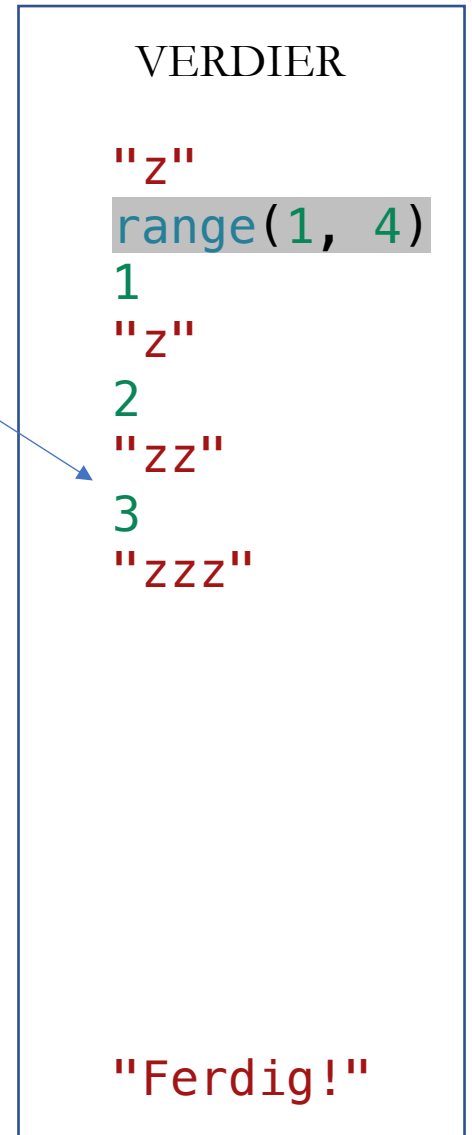
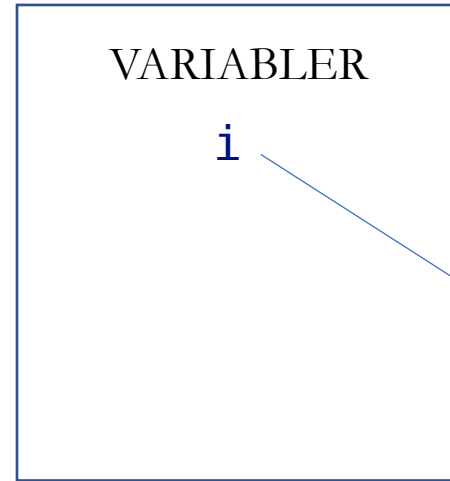
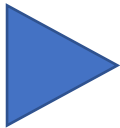
zzz

"Ferdig!"

FOR

```
for i in range(1, 4):  
    print("z" * i)
```

```
print("Ferdig")
```



BREAK

- Avbryter en løkke før den er «ferdig»

```
s = "my long string is here"  
search_for = "s"
```

```
for c in s:  
    if c == search_for:  
        print("Found it!")  
        break
```

CONTINUE

- Avbryter én iterasjon av en løkke

```
s = "My long String is Here"  
search_for = "s"  
  
for c in s:  
    if c in "abcdefghijklmnopqrstuvwxyz":  
        continue  
    print(c)
```