CS 110
Loop Tables

Benjamin Dicken

What will this print?

```
one = 'the lost world'
two = 'the last stride'
i = min(len(one), len(two)) - 1
count = 0
while i >= 0:
    if one[i] == two[i]:
        count += 1
    i -= 1
print('tally:', count)
```

Loop Table for LOCATION

```
one = 'the lost world'
two = 'the last stride'
i = min(len(one), len(two)) - 1
count = 0
while i >= 0:
    if one[i] == two[i]:
        count += 1
    i -= 1
    # LOCATION
print('tally:', count)
```


i	count
12	1
11	1
10	2
9	2
8	2
...	...

Activity

```
password = input('Enter a password:\n')

has_upper = False
has_special = False
i = 0
while i < len(password):
    if password[i].isupper():
        has_upper = True
    if password[i] == '!' or password[i] == '?' or password[i] == ';':
        has_special = True
    # LOCATION
    i += 1

if has_upper and has_special:
    print("Valid Password")
else:
    print("Invalid password.")
```

Write down the value of variables `i`, `has_upper`, and `has_special` for this location.

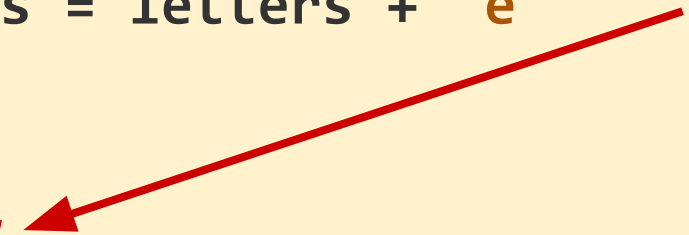
Do so using a loop table

```
password = input('Enter a password:\n')

has_upper = False
has_special = False
i = 0
while i < len(password):
    if password[i].isupper():
        has_upper = True
    if password[i] == '!' or password[i] == '?' or password[i] == ';':
        has_special = True
    # LOCATION
    i += 1

if has_upper and has_special:
    print("Valid Password")
else:
    print("Invalid password.")
```

```
letters = ''
a = 0
b = 8
c = 'r'
while a < b:
    if a > 2:
        letters = letters + c
    else:
        letters = letters + 'e'
    a += 1
    b -= 1
    # LOCATION
```



Write down the value of variables `a`, `b`, and `letters` when the body of the loop ends each iteration

Do so using a loop table

```
letters = ''
a = 0
b = 8
c = 'r'
while a < b:
    if a > 2:
        letters = letters + c
    else:
        letters = letters + 'e'
    a += 1
    b -= 1
    # LOCATION
```

a	b	letters
1	7	'e'
2	6	'ee'
3	5	'eee'
4	4	'eeer'

Activity

```
i = 0
other = 100
while i < 3:
    if other > i:
        print('other > i')
        other += 4
    j = 0
    while j < 2:
        # LOCATION
        print(i, j, other)
        j += 1
    i += 1
```

Write down the value of variables `i`, `j` and `other` when the body of the loop ends each iteration

Do so using a loop table

```
i = 0
other = 100
while i < 3:
    if other > i:
        print('other > i')
        other += 4
    j = 0
    while j < 2:
        # LOCATION
        print(i, j, other)
        j += 1
    i += 1
```

```
i = 0
other = 100
while i < 3:
    if other > i:
        print('other > i')
        other += 4
    j = 0
    while j < 2:
        # LOCATION
        print(i, j, other)
        j += 1
    i += 1
```

i	j	other
0	0	104
0	1	104
1	0	108
1	1	108
2	0	112
2	1	112