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# homework 11 sample solutions
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```
# Task 1
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```
A = []
for i in range(30, 8, -2):
    A.append(i)
B = []
for i in range(40, 18, -2):
    B.append(i)
```

```
# Task 2
```

```
C = []
for i in A:
    if i in B:
        C.append(i)
print(C)
```

```
D = []
for i in A:
    if i not in D:
        D.append(i)
for i in B:
    if i not in D:
        D.append(i)
print(D)
```

```
# Task 3
```

```
set_A = set(A)
set_B = set(B)

set_C = set_A.intersection(B)
print(f"set_C is {set_C}")
print(set_C == set(C))
```

```
# Task 4
```

```
set_D = set_A.union(set_B)
print(f"set_D is {set_D}")
print(set_D == set(D))
```

```
# Task 5
```

```
set_D.clear()
```

```
# x.update(y) updates the original set with the union; does NOT return a set
```

```
# x.union(y) returns a new set containing the union
# to preserve the original we need to work on a copy
```

```
set_A_copy = set_A.copy()
set_A_copy.update(set_B)
set_D = set_A_copy.copy()
print(f"Set A: {set_A}")
print(f"Set D: {set_D}")
```

```
# Task 6
```

```
nums = tuple(range(1, 9))
abc = ("a", "b", "c", "d", "e", "f", "g", "h")
```

```
chess1d = []
```

```
for i in nums:
    for j in abc:
        cell = j + str(i)
        chess1d.append(cell)
chess1d = tuple(chess1d)
print("Chess coordinates 1D: ")
print(chess1d)
```

```
# Task 7
```

```
chess2d = []
chess_temp = []
```

```
for i in nums:
    for j in abc:
        cell = j + str(i)
        chess_temp.append(cell)
        if j == "h":
            chess2d.append(tuple(chess_temp))
            chess_temp = []
chess2d = tuple(chess2d)
print("Chess coordinates 2D: ")
print(chess2d)
```

```
print("Verification: ")
print(chess2d[2][2] == "c3")
```