



Memory Diagrams

```
1  """First memory diagram"""
2
3  name: str = "Alyssa"
4  print("Hello " + name)
5  print("Bye " + name)
```

```
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2
3  name: str = "Alyssa"
4  print("Hello " + name)
5  print("Bye " + name)
```

Stack

Globals

Output

```
1  """Second Memory Diagram"""
2
3  val: int = 1
4  val2: int = val + 3
5  print(val + 1)
6  print(val2)
```

Stack

Globals

Output



CQ00 - Memory Diagrams Practice

```
1  """Example environment diagram program."""
2
3  age: int = 20
4  year: int = 2023
5  age_in_2043: int = 2043 - year + age
6  print("In 2043, you'll be " + str(age_in_2043))
7
8  age = age + 1
9  year = year + 1
10 print("In " + str(year) + ", you'll be " + str(age))
```

```
1  """Example environment diagram program."""
2
3  age: int = 20
4  year: int = 2023
5  age_in_2043: int = 2043 - year + age
6  print("In 2043, you'll be " + str(age_in_2043))
7
8  age = age + 1
9  year = year + 1
10 print("In " + str(year) + ", you'll be " + str(age))
```

Stack

Globals

Output



CQ01 - Memory Diagrams for Conditionals


```
1  """Example environment diagram for conditionals."""
2
3  secret: int = 3
4  guess: int = 1
5
6  if guess == secret:
7      |   print("Success!")
8      |   print(str(guess) + " is the secret number!")
9  else:
10     |   guess = guess + 1
11     |   if guess == secret:
12     |       |   print("Success on 2nd try!")
13     |       else:
14     |           |   print("Wrong guess. :(")
15     |           |   if (guess == secret - 1):
16     |           |       |   print("Hint: The guess of " + str(guess) + " is off by only one number!")
```

```
1 """Example environment diagram for conditionals."""
2
3 secret: int = 3
4 guess: int = 1
5
6 if guess == secret:
7     print("Success!")
8     print(str(guess) + " is the secret number!")
9 else:
10    guess = guess + 1
11    if guess == secret:
12        print("Success on 2nd try!")
13    else:
14        print("Wrong guess. :(")
15        if (guess == secret - 1):
16            print("Hint: The guess of " + str(guess) + " is off by only one number!")
```

Stack

Globals

Output