Objects

Where we left off:

```
gapminder %>%
  filter(continent == "Africa") %>%
  group_by(year) %>%
  summarise(mean_life = mean(lifeExp))
```


Output = new data frame!

Next step: Visualise

```
gapminder %>%
  filter(continent == "Africa") %>%
  group_by(year) %>%
  summarise(mean_life = mean(lifeExp))
```


Output = new data frame!

Piecing together

```
gapminder %>%
  filter(continent == "Africa") %>%
  group_by(year) %>%
  summarise(mean_life = mean(lifeExp))
```


Output = new data frame!

```
  ggplot(data =          )
```

Piecing together

```
gapminder %>%
  filter(continent == "Africa") %>%
  group_by(year) %>%
  summarise(mean_life = mean(lifeExp))
```


Output = new data frame!


```
ggplot(data =      )
```

We could do:

```
ggplot(data = gapminder %>%
         filter(continent == "Africa") %>%
         group_by(year) %>%
         summarise(mean_life = mean(lifeExp)))+
  geom_whatever(aes(x = this, y = that))
```

But...

It's often better to:

1. Keep wrangling separate

It's always better to:

2. Keep your code readable

Solution:

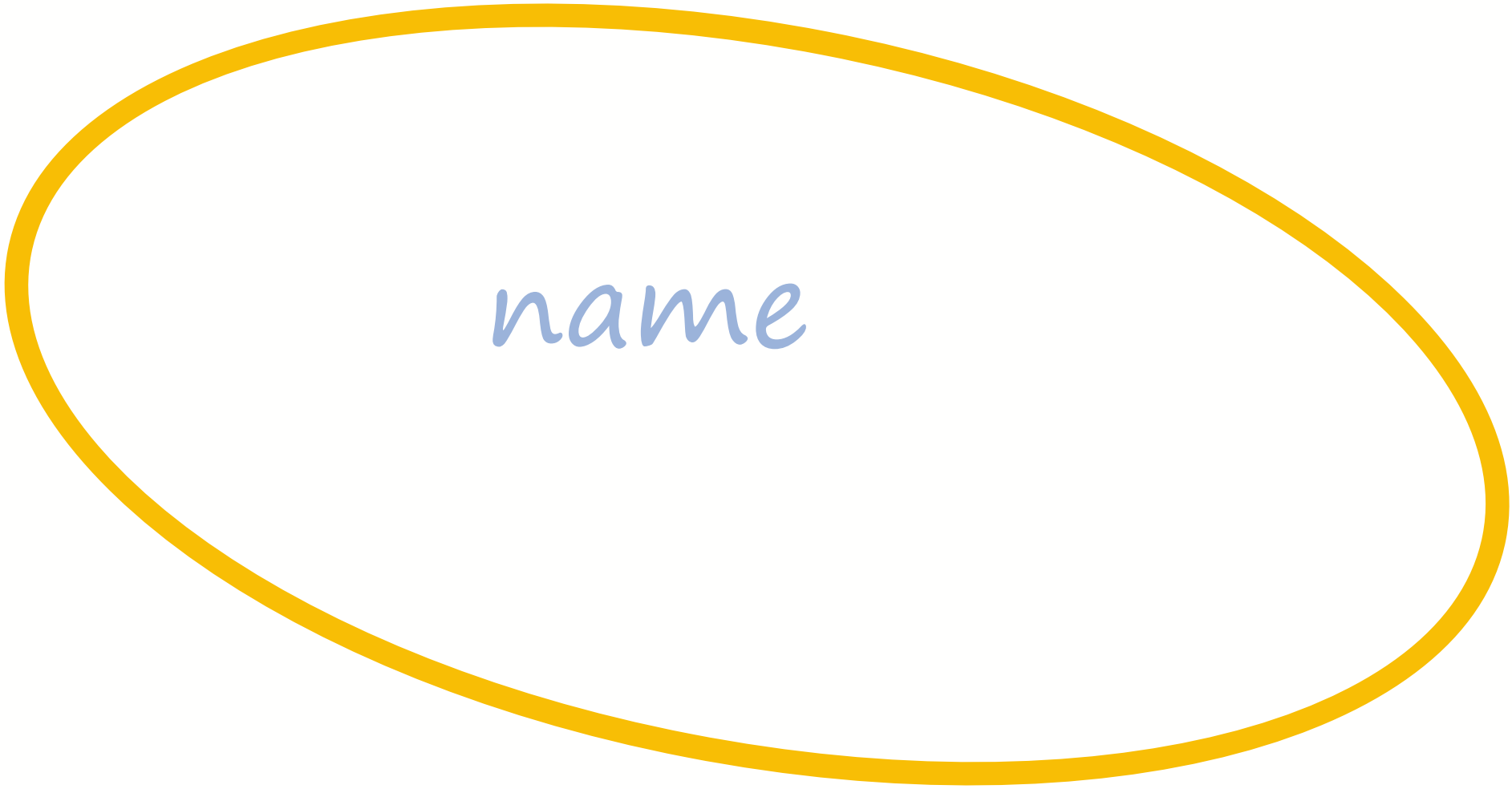
```
gapminder %>%
filter(continent == "Africa") %>%
group_by(year) %>%
summarise(mean_life = mean(lifeExp))
```

name

Replace this:

```
gapminder %>%
filter(continent == "Africa") %>%
group_by(year) %>%
summarise(mean_life = mean(lifeExp))
```

With this:



Naming

```
gapminder %>%
filter(continent == "Africa") %>%
group_by(year) %>%
summarise(mean_life = mean(lifeExp))
```

naming = hard

Naming

```
gapminder %>%
filter(continent == "Africa") %>%
group_by(year) %>%
summarise(mean_life = mean(lifeExp))
```

Grace

Naming

```
gapminder %>%
filter(continent == "Africa") %>%
group_by(year) %>%
summarise(mean_life = mean(lifeExp))
```

~~Grace~~

Good (object) names are:

1. Descriptive
2. Short(ish)
3. Consistent with other names

Naming?

```
gapminder %>%
filter(continent == "Africa") %>%
group_by(year) %>%
summarise(mean_life = mean(lifeExp))
```

life_exp

Assignment

Name objects with the assignment operator:

assignment operator

```
life_exp  <- gapminder %>%
             filter(continent == "Africa") %>%
             group_by(year) %>%
             summarise(mean_life = mean(lifeExp))
```

Assignment operator

Shortcut: Alt -

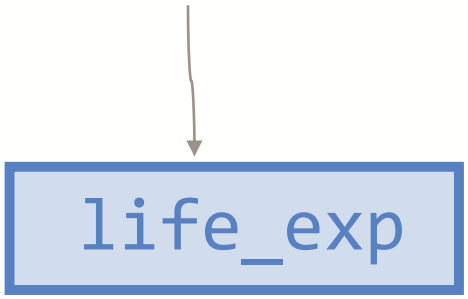
Assignment operator:

Assigns the result of this code...

```
life_exp <- gapminder %>%
  filter(continent == "Africa") %>%
  group_by(year) %>%
  summarise(mean_life = mean(lifeExp))
```

Assignment operator:

to this object



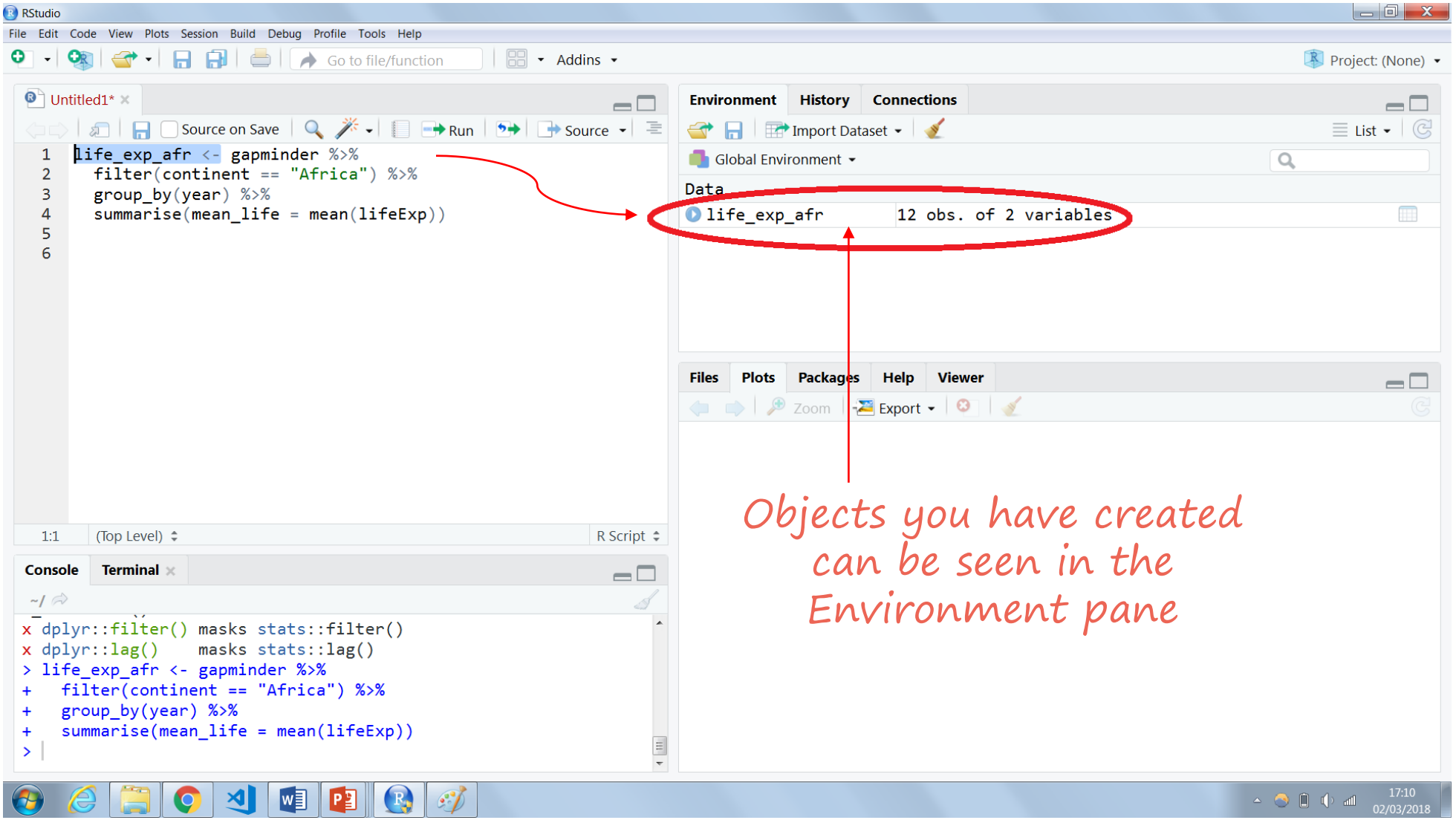
```
life_exp <- gapminder %>%
            filter(continent == "Africa") %>%
            group_by(year) %>%
            summarise(mean_life = mean(lifeExp))
```

Objects

```
life_exp_afr <- gapminder %>%
                filter(continent == "Africa") %>%
                group_by(year) %>%
                summarise(mean_life = mean(lifeExp))
```

`life_exp_afr` → running this line recalls data frame above

Objects


RStudio
File Edit Code View Plots Session Build Debug Profile Tools Help
Go to file/function
Addins
Project: (None)
Untitled1*
Source on Save
Run
Source
1 life_exp_afr <- gapminder %>%
2 filter(continent == "Africa") %>%
3 group_by(year) %>%
4 summarise(mean_life = mean(lifeExp))
5
6
1:1
(Top Level)
R Script
Console
Terminal
~/
x dplyr::filter() masks stats::filter()
x dplyr::lag() masks stats::lag()
> life_exp_afr <- gapminder %>%
+ filter(continent == "Africa") %>%
+ group_by(year) %>%
+ summarise(mean_life = mean(lifeExp))
>
Environment
History
Connections
Import Dataset
List
Global Environment
Data
life_exp_afr
12 obs. of 2 variables
Files
Plots
Packages
Help
Viewer
Zoom
Export
Objects you have created can be seen in the Environment pane
17:10
02/03/2018

Returning to the plot:

```
ggplot(data = gapminder %>%
         filter(continent == "Africa") %>%
         group_by(year) %>%
         summarise(mean_life = mean(lifeExp)))+
  geom_whatever(aes(x = this, y = that))
```

Returning to the plot

```
ggplot(data = life_exp)+
  geom_whatever(aes(x = this, y = that))
```

Or, in shorthand:

```
ggplot(life_exp_afr)+
  geom_whatever(aes(this, that))
```

Your turn (1)

If you haven't already, follow the steps we've just covered to create the object `life_exp`.

Your turn (2)

Plot the trend in mean life expectancy for Africa.

You may require:

`ggplot()+`

`geom_line()`

`ylim()`

`geom_point()`

To get help with this (or any) function type

`?ylim`

Your turn (3)

Assign the plot to an object: `graph_life`

To summarise

Assign something (data frame, plot, value) to an object when you may need that something later in your analysis.

If you won't need it later, print to the console (as we did in the wrangling session).

This work is licensed as

End