

The Research Question(s)

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Starting Point

Starting Point

We usually start with some **research question**

- Why are we losing money?
- Who uses/buys our products?
- How can we make more money?
- How do we compare with our competitors?
- When something happened?
- When do we expect something to happen?

Questions

What?

When?

Where?

Why?

How?

NBA Data

2017-2018

Last Season

I'll be making extensive use
of **NBA data** throughout the
first $\frac{1}{3}$ of the course...

(I hope you don't get bored/tired of it)

<http://www.basketball-reference.com/>

NBA players have the highest salaries in the world, but the NFL spends the most money on players

Cork Gaines and Samantha Lee

🕒 Nov. 27, 2017, 3:19 PM 🔥 2,025



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PRINT

Sporting Intelligence has released [their annual survey of salaries for athletes](#) in the top leagues around the world.

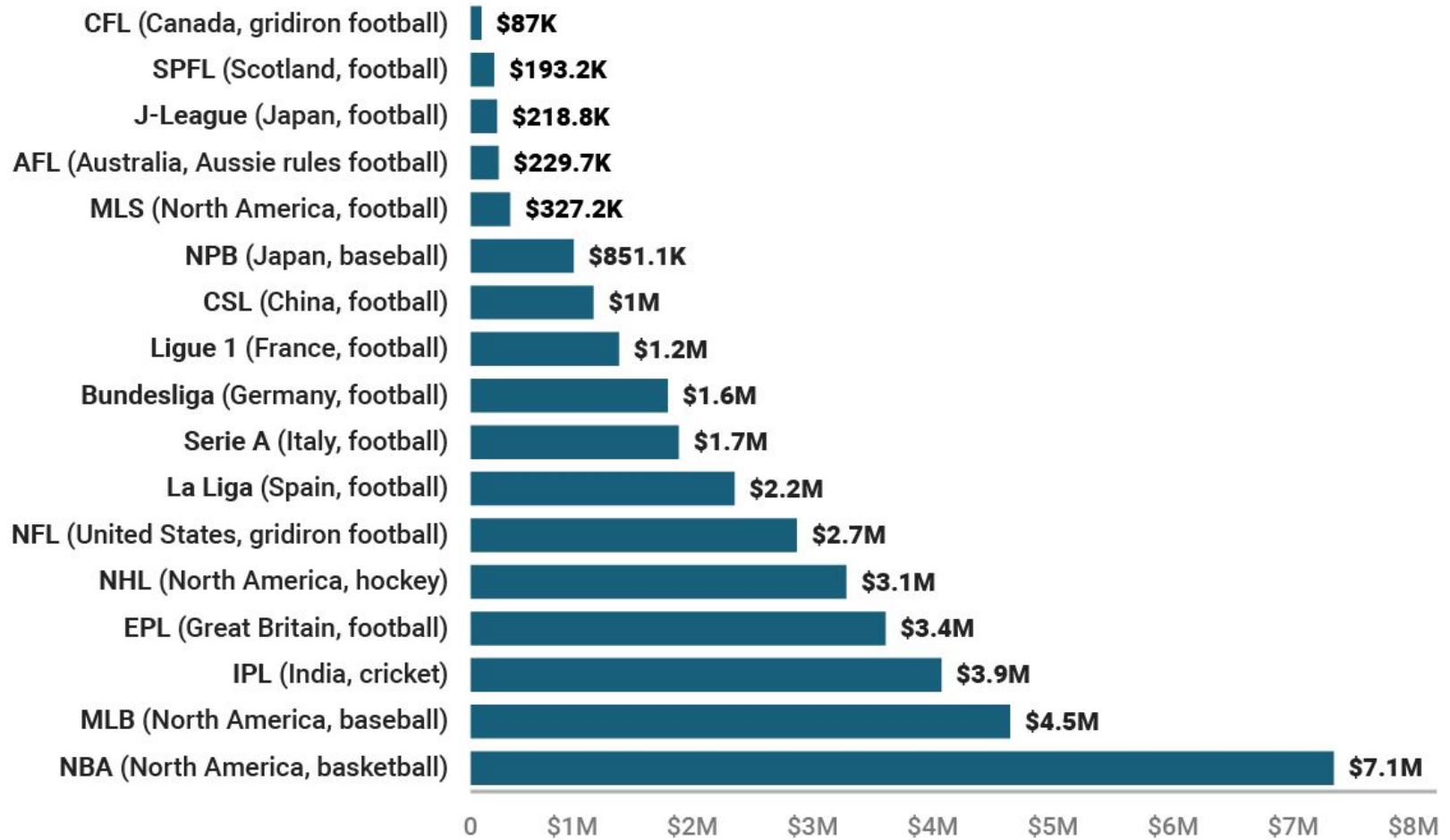
[📈 More Charts](#)



The study looks at the first-team pay for 348 teams across seven different sports in 18 different leagues around the world. [The Oklahoma City Thunder are the new highest-paid sports team in the world](#), with players making an average of \$9.3 million during the 2017-18 season.

Thanks to a salary cap that is skyrocketing due to soaring television revenue, NBA teams have shot up the list in recent years. Of the 25 highest-paid teams in the world, 19 are from the NBA, and overall, the average NBA player makes 7.1 million, tops in the world, and up from \$6.4 million last year.

AVERAGE SALARIES FOR FIRST-TEAM/ ACTIVE-ROSTER PLAYER



SOURCE: Sporting Intelligence

BUSINESS INSIDER

The Average Player Salary And Highest-Paid In NBA, MLB, NHL, NFL And MLS



Kurt Badenhausen, FORBES STAFF ✓

I cover sports business with rare dips in education & local economies

[FULL BIO](#) ✓



Design: Bailey Brautigan, Forbes Staff

Research Question #1



The more scored **points**,
the more **money** they make?

**What do we need to
answer this question?**

NBA Data


















Basketball-reference.com

(Let's look at GSW first)

Roster

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[Glossary](#)

No.	Player	Pos	Ht	Wt	Birth Date		Exp	College
2	Jordan Bell	C	6-9	224	January 7, 1995		R	University of Oregon
25	Chris Boucher	PF	6-10	182	January 11, 1993		R	University of Oregon
18	Omri Casspi	SF	6-9	225	June 22, 1988		8	
4	Quinn Cook	PG	6-2	184	March 23, 1993		1	Duke University
30	Stephen Curry	PG	6-3	190	March 14, 1988		8	Davidson College
35	Kevin Durant	PF	6-9	240	September 29, 1988		10	University of Texas at Austin
23	Draymond Green	PF	6-7	230	March 4, 1990		5	Michigan State University
9	Andre Iguodala	SF	6-6	215	January 28, 1984		13	University of Arizona
15	Damian Jones	C	7-0	245	June 30, 1995		1	Vanderbilt University
34	Shaun Livingston	PG	6-7	192	September 11, 1985		12	
5	Kevon Looney	C	6-9	220	February 6, 1996		2	University of California, Los Angeles
0	Patrick McCaw	SG	6-7	185	October 25, 1995		1	University of Nevada, Las Vegas
1	JaVale McGee	C	7-0	270	January 19, 1988		9	University of Nevada, Reno
27	Zaza Pachulia	C	6-11	270	February 10, 1984		14	
11	Klay Thompson	SG	6-7	215	February 8, 1990		6	Washington State University
3	David West	C	6-9	250	August 29, 1980		14	Xavier University
6	Nick Young	SG	6-7	210	June 1, 1985		10	University of Southern California

What Data
do you need?

Totals

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Glossary

Rk		Age	G	GS	MP	FG	FGA	FG%	3P	3PA	3P%	2P	2PA	2P%	eFG%	FT
1	Klay Thompson	27	73	73	2506	575	1179	.488	229	521	.440	346	658	.526	.585	82
2	Kevin Durant	29	68	68	2325	630	1222	.516	173	413	.419	457	809	.565	.586	359
3	Draymond Green	27	70	70	2287	281	619	.454	77	256	.301	204	363	.562	.516	134
4	Stephen Curry	29	51	51	1631	428	864	.495	212	501	.423	216	363	.595	.618	278
5	Andre Iguodala	34	64	7	1622	148	320	.463	33	117	.282	115	203	.567	.514	55
6	Nick Young	32	80	8	1393	201	488	.412	123	326	.377	78	162	.481	.538	56
7	Shaun Livingston	32	71	7	1129	172	343	.501	0	5	.000	172	338	.509	.501	50
8	David West	37	73	0	999	216	378	.571	3	8	.375	213	370	.576	.575	60
9	Zaza Pachulia	33	69	57	972	149	264	.564	0	1	.000	149	263	.567	.564	75
10	Patrick McCaw	22	57	10	961	92	225	.409	19	80	.238	73	145	.503	.451	26
11	Kevon Looney	21	66	4	910	112	193	.580	1	5	.200	111	188	.590	.583	42
12	Jordan Bell	23	57	13	809	116	185	.627	0	4	.000	116	181	.641	.627	30
13	Quinn Cook	24	33	18	740	122	252	.484	46	104	.442	76	148	.514	.575	22
14	Omri Casspi	29	53	7	740	120	207	.580	10	22	.455	110	185	.595	.604	50
15	JaVale McGee	30	65	17	615	136	219	.621	0	6	.000	136	213	.638	.621	38
16	Damian Jones	22	15	0	89	11	22	.500	0	0		11	22	.500	.500	3
17	Chris Boucher	25	1	0	1	0	1	.000	0	1	.000	0	0		.000	0
	Team Totals		82		19730	3509	6981	.503	926	2370	.391	2583	4611	.560	.569	1360

Salaries

Rk		Salary
1	Stephen Curry	\$34,682,550
2	Kevin Durant	\$25,000,000
3	Klay Thompson	\$17,826,150
4	Draymond Green	\$16,400,000
5	Andre Iguodala	\$14,814,815
6	Shaun Livingston	\$7,692,308
7	Nick Young	\$5,192,000
8	Zaza Pachulia	\$3,477,600
9	JaVale McGee	\$1,471,382
10	Omri Casspi	\$1,471,382
11	Kevon Looney	\$1,471,382
12	David West	\$1,471,382
13	Damian Jones	\$1,312,611
14	Patrick McCaw	\$1,312,611
15	Jason Thompson	\$945,126
16	Jordan Bell	\$815,615
17	Quinn Cook	\$14,832
18	Chris Boucher	\$0

Discussion and brainstorming during lecture

Demo

The Data Computing Diagram (DCD)

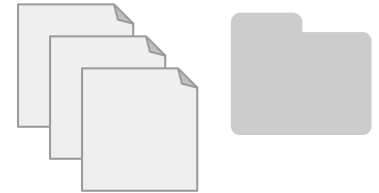
Data
Sets



Software &
Languages



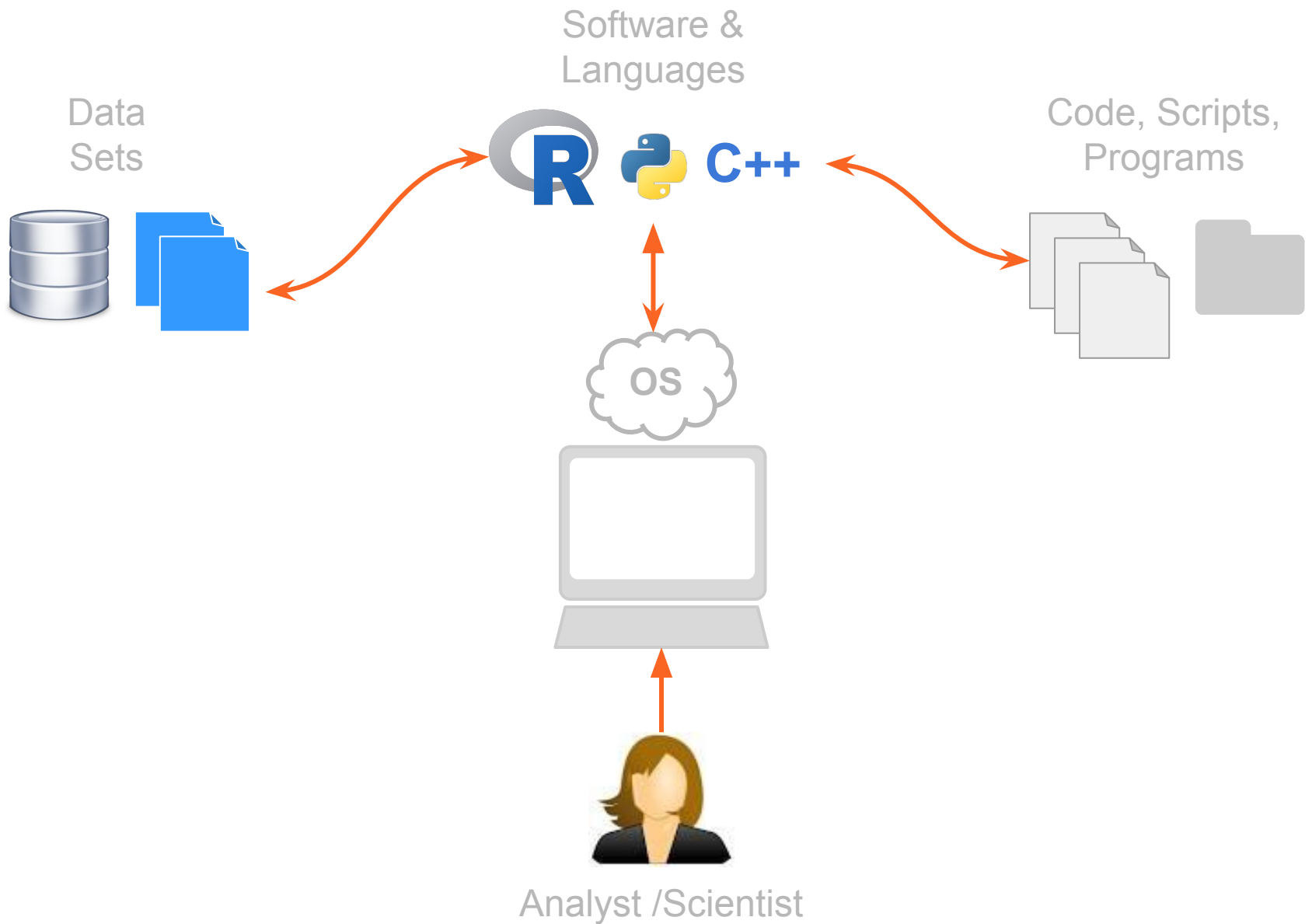
Code, Scripts,
Programs

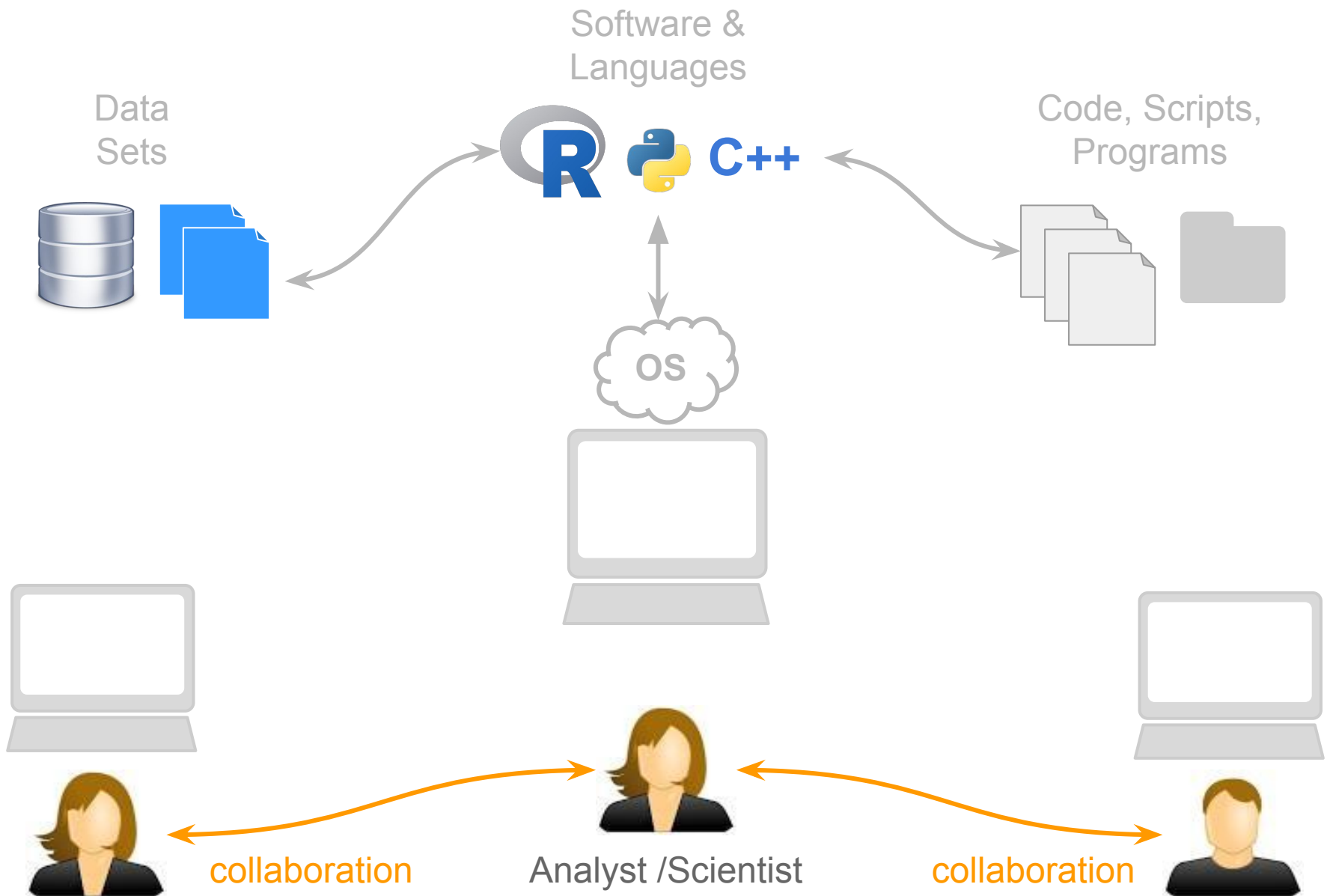


Computers



Analyst /Scientist





Reminder

Install Software

R

RStudio