

```

29 if(i==1){
30     var df = spark.read.option("delimiter",",").
31         .format("jdbc").option("url", misqCon)
32         .option("driver", driver).option("dbtable", "w2t1")
33         .mode("overwrite").save()
34     df1.show()
35
36     val columns_null = df1.select(df1.columns.map(c => count(when(col(c).isNull || col(c) === "" || col(c).isNull, c)).alias(c)):_*
37     columns_null.show()
38
39     val df2 = df1.na.drop()
40     df2.write.format("jdbc").option("url", misqCon)
41         .option("driver", driver).option("dbtable", "w2t1a")
42         .mode("overwrite").save()
43     df2.show()
44
45     val columns = df2.columns.map(c => sum(col(c).isNull.cast("integer")).alias(c))
46     val dataf = df2.agg(columns.head, columns.tail:*)
47     val t = dataf.columns.map(c => dataf.select(lit(c).alias("col_name"), col(c).alias("null_count")))
48     val dataf_agg_col = t.reduce((df2, dataf) => df2.union(dataf))
49     dataf_agg_col.show()
50
51     val df3 = df2
52         .withColumn("Name", lower(col("Name")))
53         .withColumn("Nationality", lower(col("Nationality")))
54         .withColumn("Club", lower(col("Club")))
55         .withColumn("Preferred Foot", lower(col("Preferred Foot")))
56         .withColumn("Position", lower(col("Position")))
57         .dropDuplicates()
58     df3.write.format("jdbc").option("url", misqCon)
59         .option("driver", driver).option("dbtable", "w2t1b")
60         .mode("overwrite").save()
61     df3.show()
62
63     val df4 = df3
64         .withColumn("Age Group", when(col("Age") < 20, "0-19")
65             .when(col("Age") >= 20 && col("Age") < 30, "20-29")
66             .when(col("Age") >= 30 && col("Age") < 36, "30-35")
67             .otherwise("36+"))
68     // val agePlayerSum = df4.groupby("Age Group").count() // Колонка без именного названия
69     // val agePlayerSum = df4.groupby("Age Group").agg(count("")).alias("Sum Players for Age") // Имяет наименования последней колонки
70     val agePlayerSum = df4.groupby("Age Group").count().toDF("Age Group Player", "Sum Players for Age") // Имяет наименование обеих колонок
71     agePlayerSum.show()
72
73     df4.write.format("jdbc").option("url", misqCon)
74         .option("driver", driver).option("dbtable", "w2t1c")
75         .mode("overwrite").save()
76     df4.show()
77
78     }
79
80     val s0 = (System.currentTimeMillis() - t1)/1000
81     val s = s0 * 60
82     val m = (s0/60) % 60
83     val h = (s0/60/60) % 24
84     println("Total: %02d:%02d:%02d".format(h, m, s))
85     System.exit(0)
86
87
88
89
90
91

```

Preferred Foot	0
International Rep...	0
Skill Moves	0
Position	0
Joined	0
Contract Valid Until	0
Height	0
Weight	0
Release Clause	0

ID	Name	Age	Nationality	Overall	Potential	Club	Value	Wage	Preferred Foot	International Reputation	Skill Moves	Position	Joined	Contract Valid Until	Height	Weight	Release Clause
177766	g. bong	30	cameroon	74	74	brighton & hove a...	4180	35	left	1	3	lb	2015	01/01/2019	6.166666667	163	7780
189459	jaine romero	27	spain	71	71	córdoba cf	2500	7	left	1	3	rm	2017	01/01/2020	5.75	170	3800
206651	roberto torres	29	spain	72	72	ca osasuna	3000	9	right	1	3	cam	2011	01/01/2020	5.833333333	159	4900
223402	e. tashdemir	22	turkey	71	78	bursaspor	2800	9	left	1	3	lb	2014	01/01/2019	5.75	154	6200
23125	m. hartel	22	germany	69	76	1. fc union berlin	1500	14	right	1	3	lb	2017	01/01/2020	5.75	152	2700
231164	a. muric	19	montenegro	61	78	manchester city	450	3	right	1	1	gk	2017	01/01/2020	6.5	179	1100
238516	l. østgaard	18	norway	61	81	brighton & hove a...	475	3	right	1	2	cb	2018	01/01/2021	6	176	1400
240873	genaro	20	spain	61	71	sevilla fc	400	2	right	1	2	cm	2017	01/01/2021	6	157	920
240926	n. phillips	21	england	61	74	liverpool	425	9	right	1	2	cb	2017	01/01/2021	6.166666667	154	1100
241651	v. gyökeres	20	sweden	62	79	brighton & hove a...	675	6	right	1	3	st	2018	01/01/2020	5.916666667	168	1700
244582	a. paloczyci	24	serbia	70	75	cd nacional	2300	6	right	1	3	cm	2018	01/01/2022	5.916666667	146	5100
171565	linares	35	spain	69	69	cf reus deportiu	475	4	right	1	2	st	2018	01/01/2019	5.916666667	172	736
178518	r. nainggolan	30	belgium	85	85	inter	35500	105	right	3	3	cam	2018	01/01/2022	5.75	170	60400
191740	ander herrera	28	spain	81	81	manchester united	17500	140	right	3	3	cm	2014	01/01/2019	6	154	32400
197242	g. krychowiak	28	poland	78	79	lokomotiv moscow	9500	11	right	3	3	lcm	2016	01/01/2021	6.083333333	187	20700
200714	h. hope	24	barbados	60	65	carlisle united	280	2	right	1	2	ls	2017	01/01/2019	5.833333333	168	511
212244	c. lenz	23	germany	66	72	1. fc union berlin	750	7	left	1	3	lb	2016	01/01/2019	5.916666667	174	1400
214440	d. melo	24	chile	69	76	cd palestino	1100	2	right	1	1	gk	2011	01/01/2020	5.833333333	168	1700
227676	m. kennedy	21	northern ireland	53	63	charlton athletic	180	1	right	1	2	rm	2014	01/01/2018	5.916666667	168	195
234014	jorgino bauner	34	brazil	68	68	chapecoense	450	7	right	1	3	cam	2018	01/01/2021	5.833333333	152	855

only showing top 20 rows

Age Group	Player	Sum Players for Age
20-29		1415
30-35		379
0-19		262
36+		17

ID	Name	Age	Nationality	Overall	Potential	Club	Value	Wage	Preferred Foot	International Reputation	Skill Moves	Position	Joined	Contract Valid Until	Height	Weight	Release Clause	Age Group
177766	g. bong	30	cameroon	74	74	brighton & hove a...	4180	35	left	1	3	lb	2015	01/01/2019	6.166666667	163	7780	30-35
189459	jaine romero	27	spain	71	71	córdoba cf	2500	7	left	1	3	rm	2017	01/01/2020	5.75	170	3800	20-29
206651	roberto torres	29	spain	72	72	ca osasuna	3000	9	right	1	3	cam	2011	01/01/2020	5.833333333	159	4900	20-29
223402	e. tashdemir	22	turkey	71	78	bursaspor	2800	9	left	1	3	lb	2014	01/01/2019	5.75	154	6200	20-29
23125	m. hartel	22	germany	69	76	1. fc union berlin	1500	14	right	1	3	lb	2017	01/01/2020	5.75	152	2700	20-29
231164	a. muric	19	montenegro	61	78	manchester city	450	3	right	1	1	gk	2017	01/01/2020	6.5	179	1100	0-19
238516	l. østgaard	18	norway	61	81	brighton & hove a...	475	3	right	1	2	cb	2018	01/01/2021	6	176	1400	0-19
240873	genaro	20	spain	61	71	sevilla fc	400	2	right	1	2	cm	2017	01/01/2021	6	157	920	20-29
240926	n. phillips	21	england	61	74	liverpool	425	9	right	1	2	cb	2017	01/01/2021	6.166666667	154	1100	20-29
241651	v. gyökeres	20	sweden	62	79	brighton & hove a...	675	6	right	1	3	st	2018	01/01/2020	5.916666667	168	1700	20-29
244582	a. paloczyci	24	serbia	70	75	cd nacional	2300	6	right	1	3	cm	2018	01/01/2022	5.916666667	146	5100	20-29
171565	linares	35	spain	69	69	cf reus deportiu	475	4	right	1	2	st	2018	01/01/2019	5.916666667	172	736	30-35
178518	r. nainggolan	30	belgium	85	85	inter	35500	105	right	3	3	cam	2018	01/01/2022	5.75	170	60400	30-35
191740	ander herrera	28	spain	81	81	manchester united	17500	140	right	3	3	cm	2014	01/01/2019	6	154	32400	20-29
197242	g. krychowiak	28	poland	78	79	lokomotiv moscow	9500	11	right	3	3	lcm	2016	01/01/2021	6.083333333	187	20700	20-29
200714	h. hope	24	barbados	60	65	carlisle united	280	2	right	1	2	ls	2017	01/01/2019	5.833333333	168	511	20-29
212244	c. lenz	23	germany	66	72	1. fc union berlin	750	7	left	1	3	lb	2016	01/01/2019	5.916666667	174	1400	20-29
214440	d. melo	24	chile	69	76	cd palestino	1100	2	right	1	1	gk	2011	01/01/2020	5.833333333	168	1700	20-29
227676	m. kennedy	21	northern ireland	53	63	charlton athletic	180	1	right	1	2	rm	2014	01/01/2018	5.916666667	168	195	20-29
234014	jorgino bauner	34	brazil	68	68	chapecoense	450	7	right	1	3	cam	2018	01/01/2021	5.833333333	152	855	30-35

only showing top 20 rows

#	ty	Overall	Potential	Club	Value	Wage	Preferred Foot	International Reputation	Skill Moves	Position	Joined	Contract Valid Until	Height	Weight	Release Clause	Age Group
1	on	74	74	brighton & hove albion	4100	35	left	1	3	lb	2015	01/01/2019	6.166666667	163	7700	30-35
2		71	71	córdoba cf	2500	7	left	1	3	rm	2017	01/01/2020	5.75	170	3800	20-29
3		72	72	ca osasuna	3000	9	right	1	3	cam	2011	01/01/2020	5.833333333	159	4900	20-29
4		71	78	bursaspor	2800	9	left	1	3	lb	2014	01/01/2019	5.75	154	6200	20-29
5	y	69	76	1. fc union berlin	1500	14	right	1	3	lw	2017	01/01/2020	5.75	152	2700	20-29
6	egro	61	78	manchester city	450	3	right	1	1	gk	2017	01/01/2020	6.5	179	1100	0-19
7		61	81	brighton & hove albion	475	3	right	1	2	cb	2018	01/01/2021	6	176	1400	0-19
8		61	71	sevilla fc	400	2	right	1	2	cm	2017	01/01/2021	6	157	920	20-29
9		61	74	liverpool	425	9	right	1	2	cb	2017	01/01/2021	6.166666667	154	1100	20-29
10		62	79	brighton & hove albion	675	6	right	1	3	st	2018	01/01/2020	6.166666667	168	1700	20-29
11		70	75	cd nacional	2300	6	right	1	3	cm	2018	01/01/2022	5.916666667	146	5100	20-29
12		69	69	cf reus deportiu	475	4	right	1	2	st	2018	01/01/2019	5.916666667	172	736	30-35
13		85	85	inter	35500	105	right	3	3	cam	2018	01/01/2022	5.75	170	60400	30-35
14		81	81	manchester united	17500	140	right	3	3	cm	2014	01/01/2019	6	154	32400	20-29
15		78	79	lokomotiv moscow	9500	1	right	3	3	lcm	2016	01/01/2021	6.083333333	187	20700	20-29
16	is	60	65	carlisle united	280	2	right	1	2	ls	2017	01/01/2019	5.833333333	168	511	20-29
17	y	66	72	1. fc union berlin	750	7	left	1	3	lb	2016	01/01/2019	5.916666667	174	1400	20-29
18		69	76	cd palestino	1100	2	right	1	1	gk	2011	01/01/2020	5.833333333	168	1700	20-29
19	ireland	53	63	charlton athletic	100	1	right	1	2	rm	2014	01/01/2018	5.916666667	168	195	20-29
20		68	68	chapecoense	450	7	right	1	3	cam	2018	01/01/2021	5.833333333	152	855	30-35
21		55	67	cd huachipato	160	1	right	1	2	rw	2018	01/01/2021	5.583333333	150	248	20-29
22		53	72	aston villa	110	1	left	1	2	cb	2018	01/01/2020	6.333333333	179	278	0-19
23		68	68	cd o'higgins	375	2	right	1	1	gk	2016	01/01/2018	6	174	506	30-35
24		84	84	borussia dortmund	24000	77	right	3	4	lcm	2018	01/01/2022	6.166666667	179	40800	20-29
25		63	63	cambridge united	375	3	right	1	3	rm	2017	01/01/2019	5.833333333	170	656	20-29
26		66	67	milan	500	15	right	1	1	gk	2017	01/01/2021	6.333333333	212	888	20-29
27		65	71	carpi	725	4	left	1	3	cm	2016	30/06/2019	5.916666667	159	4585.060806	20-29
28		67	72	cd aves	1000	4	right	1	4	lw	2018	01/01/2019	5.75	148	2200	20-29
29		61	76	brighton & hove albion	500	5	right	1	2	cb	2015	01/01/2021	6	159	1300	20-29
30	a	69	74	cd nacional	1400	6	right	1	3	st	2018	01/01/2021	6	172	3100	20-29
31	l	56	59	brisbane roar	80	1	right	1	1	gk	2017	01/01/2019	6	165	106	20-29
32		79	79	lokomotiv moscow	7500	1	right	2	4	cam	2017	01/01/2020	5.833333333	185	15800	30-35

607 SELECT tc.CONSTRAINT_NAME, cc.CHECK_CLAUSE FROM `information_schema`.`CHECK_CONSTRAINTS` AS cc, `information_schema`.`TABLE_CONSTRAINTS` AS tc WHERE tc.CONSTRAINT_SCHEMA='spark' AND tc.TABLE_NAME='w2t1c' AI^
608 /* Открытие сеанса «Unnamed» */
609 SELECT * FROM spark.w2t1c;
610 /* Затронуто строк: 0 Найдены строки: 2 073 Предупреждения: 0 Длительность 1 запрос: 0,000 сек. */