

This presentation provides an overview of the 3 graphs required from data processing. And a further set of instructions for processing the data.

The term event name is misleading and when it comes to the initial drop down menus. The real aim is to narrow it down to one Idevent rather than lots using the same eventname. Potentially have a 2<sup>nd</sup> drop down which populates when you have decided which event you want which allows you to choose the date and time of the event you want to view. These would be selected from the information shown in the red circle

Search:

	idevent	EventName	start_scraping	Event_DateTime
	<div>All</div>	<div>All</div>	<div>All</div>	<div>All</div>
1	43	Horse Racing - Bath	2017-05-26 11:00:00	2017-05-26 12:40:00
2	44	Horse Racing - Bath	2017-05-26 11:10:00	2017-05-26 13:10:00
3	45	Horse Racing - Bath	2017-05-26 11:20:00	2017-05-26 13:45:00
4	216	Horse Racing - Bath	2017-06-02 00:00:00	2017-06-02 18:45:00
5	217	Horse Racing - Bath	2017-06-02 17:30:00	2017-06-02 19:15:00
6	218	Horse Racing - Bath	2017-06-02 17:30:00	2017-06-02 19:45:00
7	219	Horse Racing - Bath	2017-06-02 17:30:00	2017-06-02 20:15:00
8	220	Horse Racing - Bath	2017-06-02 17:30:00	2017-06-02 20:45:00
9	221	Horse Racing - Bath	2017-06-02 17:30:00	2017-06-02 21:15:00
10	223	Horse Racing - Bath	2017-06-02 17:30:00	2017-06-02 21:50:00
11	1133	Horse Racing - Bath	2017-06-17 08:10:00	2017-06-17 15:10:00
12	1138	Horse Racing - Bath	2017-06-17 08:45:00	2017-06-17 15:45:00
13	1143	Horse Racing - Bath	2017-06-17 09:20:00	2017-06-17 16:20:00

Event

Event

Horse racing - Bangor

Horse racing - Bath

Horse racing - Beverly

Date and Time

Date and Time

21/06/17 – 15:00

21/06/17 – 14:30

21/06/17 – 14:00

- Note: At the moment every graph we will want to produce will be based off a single Ievent. Therefore being able to select this option rather than the event name or bookmaker is the most important factor in GUI work.

# Processing the data as discussed on the phone

- The following rule needs to be applied to data collected from bookmaker id 31 only. All other bets from all other sources need to be used as graph requires.
- In the column odds\_type only take values with B rather than an L
- In the column odds\_ctr only take value with a 0 rather than a 1 or a 2
- I.e only take the 2 values in green.

idevent	idsource	market	idbookmaker	bet	Timestamp	delta	odds	size	status	odds_type	odds_ctr
1975	2	Win	31	Alaadel	06:56:56	0	0.294118	12.28	0	L	0
1975	2	Win	31	Alaadel	06:56:57	1	0.377358	14.14	0	B	2
1975	2	Win	31	Alaadel	06:56:58	1	0.333333	12.31	0	B	0
1975	2	Win	31	Alaadel	06:57:14	1	0.30303	20	0	B	0
1975	2	Win	31	Alaadel	07:00:14	40	0.142857	22.5	0	B	1
1975	2	Win	31	Alaadel	07:00:15	0	0.148148	19.42	0	B	1
1975	2	Win	31	Alaadel	07:00:16	1	0.142857	22.5	0	B	1
1975	2	Win	31	Alaadel	07:01:28	31	0.148148	19.42	0	L	2

# Graph 1

- Overround of the market

Lets start by assuming that we have the following table. It is a race which starts at 20:00 and has 3 runners Allaadel, Cappananty Con and Maakaasib (Dates have been removed and event id is wrong)

idevent	idsource	market	idbookmaker	bet	Timestamp	delta	odds	size
	15	1Winner		1Alaadel	06:55:23	0	0.5	-1
	15	1Winner		1Alaadel	07:33:41	19	0.363636	-1
	15	1Winner		1Alaadel	10:18:53	21	0.307692	-1
	15	1Winner		1Alaadel	16:35:53	19	0.285714	-1
	15	1Winner		1Alaadel	19:56:31	7	0.117647	-1
	15	1Winner		1Cappananty Con	06:55:26	0	0.222222	-1
	15	1Winner		1Cappananty Con	10:18:57	21	0.235294	-1
	15	1Winner		1Cappananty Con	14:39:36	29	0.25	-1
	15	1Winner		1Cappananty Con	19:48:11	10	0.266667	-1
	15	1Winner		1Cappananty Con	19:48:26	7	0.285714	-1
	15	1Winner		1Cappananty Con	19:50:05	21	0.307692	-1
	15	1Winner		1Cappananty Con	19:52:15	7	0.333333	-1
	15	1Winner		1Cappananty Con	19:53:56	7	0.363636	-1
	15	1Winner		1Cappananty Con	19:55:18	20	0.4	-1
	15	1Winner		1Maakaasib	06:55:26	0	0.2	-1
	15	1Winner		1Maakaasib	06:59:28	16	0.222222	-1
	15	1Winner		1Maakaasib	07:33:45	19	0.25	-1
	15	1Winner		1Maakaasib	08:51:53	11	0.133333	-1
	15	1Winner		1Maakaasib	09:19:16	17	0.153846	-1
	15	1Winner		1Maakaasib	09:58:00	22	0.166667	-1
	15	1Winner		1Maakaasib	17:04:24	23	0.181818	-1
	15	1Winner		1Maakaasib	18:26:24	53	0.2	-1
	15	1Winner		1Maakaasib	18:35:05	45	0.210526	-1
	15	1Winner		1Maakaasib	19:07:00	22	0.222222	-1
	15	1Winner		1Maakaasib	19:10:23	34	0.235294	-1
	15	1Winner		1Maakaasib	19:18:03	19	0.25	-1
	15	1Winner		1Maakaasib	19:36:46	25	0.266667	-1
	15	1Winner		1Maakaasib	19:43:18	43	0.285714	-1
	15	1Winner		1Maakaasib	19:50:57	21	0.307692	-1
	15	1Winner		1Maakaasib	19:53:40	7	0.333333	-1
	15	1Winner		2Alaadel	06:55:23	0	0.444444	-1
	15	1Winner		2Alaadel	06:59:33	10	0.444444	-1
	15	1Winner		2Alaadel	07:00:48	30	0.444444	-1
	15	1Winner		2Alaadel	16:41:30	49	0.4	-1
	15	1Winner		2Alaadel	19:54:50	9	0.363636	-1
	15	1Winner		2Alaadel	19:57:04	6	0.333333	-1
	15	1Winner		2Cappananty Con	06:55:26	0	0.266667	-1

The first graph that is required is the market over round, as stated in the original document over round is the total percentage chance of winning of all the horses added together. This is normally greater than 1 for the bookmaker to make money no matter what the results

1.4 Explanation of over round

This explanation is provided for background information only

Bookmakers offer odds on every horse in a race. These are expressed as a percentage greater than 0 and less than 100%. They represent the probability of a given horse winning the race plus a margin for the bookmakers profit.

As can be seen from the example below – a fictional bookmaker is offering fractional odds on 5 horses and the percentage probability adds up to over 100%. In this example the bookmaker collects the exact number of bets required to get a perfectly balanced book and whatever the outcome he makes £17 profit.

Note: The pay out on a 4-1 horse with a £20 bet is £80 plus he refunds the £20 stakes. The odds as a percentage are calculated by dividing 1 into 4+1 ie 20%.

The over round in this example is 117%. Over round is a fundamental rule in bookmaking.

	Fractional odds	Percentage chance	Amount staked perfect book	Payout if wins	
Horse 1	evens	50%		£50	£100
Horse 2	2-1	33%		£33	£100
Horse 3	4-1	20%		£20	£100
Horse 4	10-1	9.09%		£9.09	£100
Horse 5	20-1	4.76%		£4.76	£100
Total		117%		£117	

The “odds” column from the sql information is named “percentage chance” in this table.

It is the total Percentage chance number that we are interested in here.

If you have any more issues watch <https://www.youtube.com/watch?v=x1szu7SiiEk>

In order to look at Market overround we need to sum the odds of the horse winning across all bookmakers added together. Different bookmakers offer different prices at different times based off a number of factors. The scrapping tool works in a way that it only picks up information if the odds change so if there is no new information the software can consider the information is constant

idevent	idsource	market	idbookmaker	bet	Timestamp	delta	odds	size
	15	1Winner		1Alaadel	06:55:23	0	0.5	-1
	15	1Winner		1Alaadel	07:33:41	19	0.363636	-1
	15	1Winner		1Alaadel	10:18:53	21	0.307692	-1
	15	1Winner		1Alaadel	16:35:53	19	0.285714	-1
	15	1Winner		1Alaadel	19:56:31	7	0.117647	-1
	15	1Winner		1Cappananty Con	06:55:26	0	0.222222	-1
	15	1Winner		1Cappananty Con	10:18:57	21	0.235294	-1
	15	1Winner		1Cappananty Con	14:39:36	29	0.25	-1
	15	1Winner		1Cappananty Con	19:48:11	10	0.266667	-1
	15	1Winner		1Cappananty Con	19:48:26	7	0.285714	-1
	15	1Winner		1Cappananty Con	19:50:05	21	0.307692	-1
	15	1Winner		1Cappananty Con	19:52:15	7	0.333333	-1
	15	1Winner		1Cappananty Con	19:53:56	7	0.363636	-1
	15	1Winner		1Cappananty Con	19:55:18	20	0.4	-1
	15	1Winner		1Maakaasib	06:55:26	0	0.2	-1
	15	1Winner		1Maakaasib	06:59:28	16	0.222222	-1
	15	1Winner		1Maakaasib	07:33:45	19	0.25	-1
	15	1Winner		1Maakaasib	08:51:53	11	0.133333	-1
	15	1Winner		1Maakaasib	09:19:16	17	0.153846	-1
	15	1Winner		1Maakaasib	09:58:00	22	0.166667	-1
	15	1Winner		1Maakaasib	17:04:24	23	0.181818	-1
	15	1Winner		1Maakaasib	18:26:24	53	0.2	-1
	15	1Winner		1Maakaasib	18:35:05	45	0.210526	-1
	15	1Winner		1Maakaasib	19:07:00	22	0.222222	-1
	15	1Winner		1Maakaasib	19:10:23	34	0.235294	-1
	15	1Winner		1Maakaasib	19:18:03	19	0.25	-1
	15	1Winner		1Maakaasib	19:36:46	25	0.266667	-1
	15	1Winner		1Maakaasib	19:43:18	43	0.285714	-1
	15	1Winner		1Maakaasib	19:50:57	21	0.307692	-1
	15	1Winner		1Maakaasib	19:53:40	7	0.333333	-1
	15	1Winner		2Alaadel	06:55:23	0	0.444444	-1
	15	1Winner		2Alaadel	06:59:33	10	0.444444	-1
	15	1Winner		2Alaadel	07:00:48	30	0.444444	-1
	15	1Winner		2Alaadel	16:41:30	49	0.4	-1
	15	1Winner		2Alaadel	19:54:50	9	0.363636	-1
	15	1Winner		2Alaadel	19:57:04	6	0.333333	-1



The first step in my manipulation of the data was to produce a table for each horse, per event and then plot it against time. 10 seconds is a sensible time frame. Starting from the time the first data is collected and running till the time when the last.

Time	Horse	Bookmaker 1	Bookmaker 2	Bookmaker 3
19:50:30	Maakaasib		0.363636	
19:50:40	Maakaasib			
19:50:50	Maakaasib			
19:51:00	Maakaasib	0.307691		
19:51:10	Maakaasib			
19:51:20	Maakaasib			
19:51:30	Maakaasib			
19:51:40	Maakaasib			
19:51:50	Maakaasib			
19:52:00	Maakaasib			
19:52:10	Maakaasib			0.285714
19:52:20	Maakaasib			
19:52:30	Maakaasib			
19:52:40	Maakaasib			
19:52:50	Maakaasib			
19:53:00	Maakaasib			
19:53:10	Maakaasib			0.363636
19:53:20	Maakaasib			
19:53:30	Maakaasib			
19:53:40	Maakaasib	0.333333		
19:53:50	Maakaasib			
19:54:00	Maakaasib			
19:54:10	Maakaasib			
19:54:20	Maakaasib			
19:54:30	Maakaasib			
19:54:40	Maakaasib			
19:54:50	Maakaasib			
19:55:00	Maakaasib			
19:55:10	Maakaasib			
19:55:20	Maakaasib			
19:55:30	Maakaasib			

The first step in my manipulation of the data was to produce a table for each horse, per event and then plot it against time. 10 seconds is a sensible time frame. Starting from the time the first data is collected and running till the time when the last.

Time	Horse	Bookmaker 1	Bookmaker 2	Bookmaker 3	Lowest value
19:50:30	Maakaasib	0.285714	0.363636	0.307692	0.285714
19:50:40	Maakaasib	0.285714	0.363636	0.307692	0.285714
19:50:50	Maakaasib	0.285714	0.363636	0.307692	0.285714
19:51:00	Maakaasib	0.307691	0.363636	0.307692	0.307691
19:51:10	Maakaasib	0.307691	0.363636	0.307692	0.307691
19:51:20	Maakaasib	0.307691	0.363636	0.307692	0.307691
19:51:30	Maakaasib	0.307691	0.363636	0.307692	0.307691
19:51:40	Maakaasib	0.307691	0.363636	0.307692	0.307691
19:51:50	Maakaasib	0.307691	0.363636	0.307692	0.307691
19:52:00	Maakaasib	0.307691	0.363636	0.307692	0.307691
19:52:10	Maakaasib	0.307692	0.363636	0.285714	0.285714
19:52:20	Maakaasib	0.307692	0.363636	0.285714	0.285714
19:52:30	Maakaasib	0.307692	0.363636	0.285714	0.285714
19:52:40	Maakaasib	0.307692	0.363636	0.285714	0.285714
19:52:50	Maakaasib	0.307692	0.363636	0.285714	0.285714
19:53:00	Maakaasib	0.307692	0.363636	0.285714	0.285714
19:53:10	Maakaasib	0.307692	0.363636	0.363636	0.307692
19:53:20	Maakaasib	0.307692	0.363636	0.363636	0.307692
19:53:30	Maakaasib	0.307692	0.363636	0.363636	0.307692
19:53:40	Maakaasib	0.333333	0.363636	0.363636	0.333333
19:53:50	Maakaasib	0.333333	0.363636	0.363636	0.333333
19:54:00	Maakaasib	0.333333	0.363636	0.363636	0.333333
19:54:10	Maakaasib	0.333333	0.363636	0.363636	0.333333
19:54:20	Maakaasib	0.333333	0.363636	0.363636	0.333333
19:54:30	Maakaasib	0.333333	0.363636	0.363636	0.333333
19:54:40	Maakaasib	0.333333	0.363636	0.363636	0.333333
19:54:50	Maakaasib	0.333333	0.363636	0.363636	0.333333
19:55:00	Maakaasib	0.333333	0.363636	0.363636	0.333333
19:55:10	Maakaasib	0.333333	0.363636	0.363636	0.333333
19:55:20	Maakaasib	0.333333	0.363636	0.363636	0.333333
19:55:30	Maakaasib	0.333333	0.363636	0.363636	0.333333

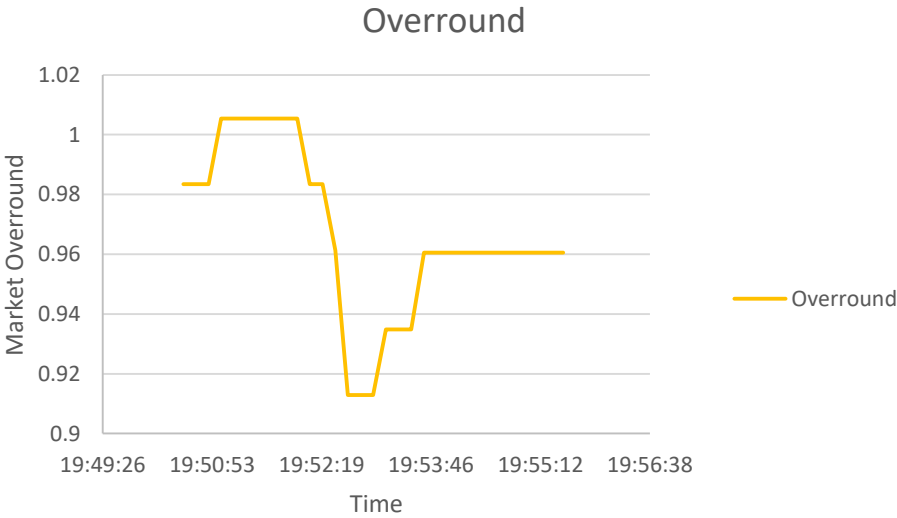
The points in green are new data points which are extracted from the data set and then dragged down until the next new data point occurs. The data in orange is the lowest value in the table is the most favourable value to the customer and therefore the value we are interested in.

These values are then transferred into the lowest value column using a minimum function.

The second step in my manipulation of the data was to produce a table for the best value of each horse, per event and then plot it against time. 10 seconds is a sensible time frame.

Time	Maakaasib	Alladell	Cappananty Con	Overround
19:50:30	0.285714	0.285714	0.412	0.983428
19:50:40	0.285714	0.285714	0.412	0.983428
19:50:50	0.285714	0.285714	0.412	0.983428
19:51:00	0.307691	0.285714	0.412	1.005405
19:51:10	0.307691	0.285714	0.412	1.005405
19:51:20	0.307691	0.285714	0.412	1.005405
19:51:30	0.307691	0.285714	0.412	1.005405
19:51:40	0.307691	0.285714	0.412	1.005405
19:51:50	0.307691	0.285714	0.412	1.005405
19:52:00	0.307691	0.285714	0.412	1.005405
19:52:10	0.285714	0.285714	0.412	0.983428
19:52:20	0.285714	0.285714	0.412	0.983428
19:52:30	0.285714	0.263564	0.412	0.961278
19:52:40	0.285714	0.263564	0.363636	0.912914
19:52:50	0.285714	0.263564	0.363636	0.912914
19:53:00	0.285714	0.263564	0.363636	0.912914
19:53:10	0.307692	0.263564	0.363636	0.934892
19:53:20	0.307692	0.263564	0.363636	0.934892
19:53:30	0.307692	0.263564	0.363636	0.934892
19:53:40	0.333333	0.263564	0.363636	0.960533
19:53:50	0.333333	0.263564	0.363636	0.960533
19:54:00	0.333333	0.263564	0.363636	0.960533
19:54:10	0.333333	0.263564	0.363636	0.960533
19:54:20	0.333333	0.263564	0.363636	0.960533
19:54:30	0.333333	0.263564	0.363636	0.960533
19:54:40	0.333333	0.263564	0.363636	0.960533
19:54:50	0.333333	0.263564	0.363636	0.960533
19:55:00	0.333333	0.263564	0.363636	0.960533
19:55:10	0.333333	0.263564	0.363636	0.960533
19:55:20	0.333333	0.263564	0.363636	0.960533
19:55:30	0.333333	0.263564	0.363636	0.960533

The values are then added to provide the overround for the entire market.



# Conversion to PDF

- Once this is complete it is required that there is an option for a PDF export.