

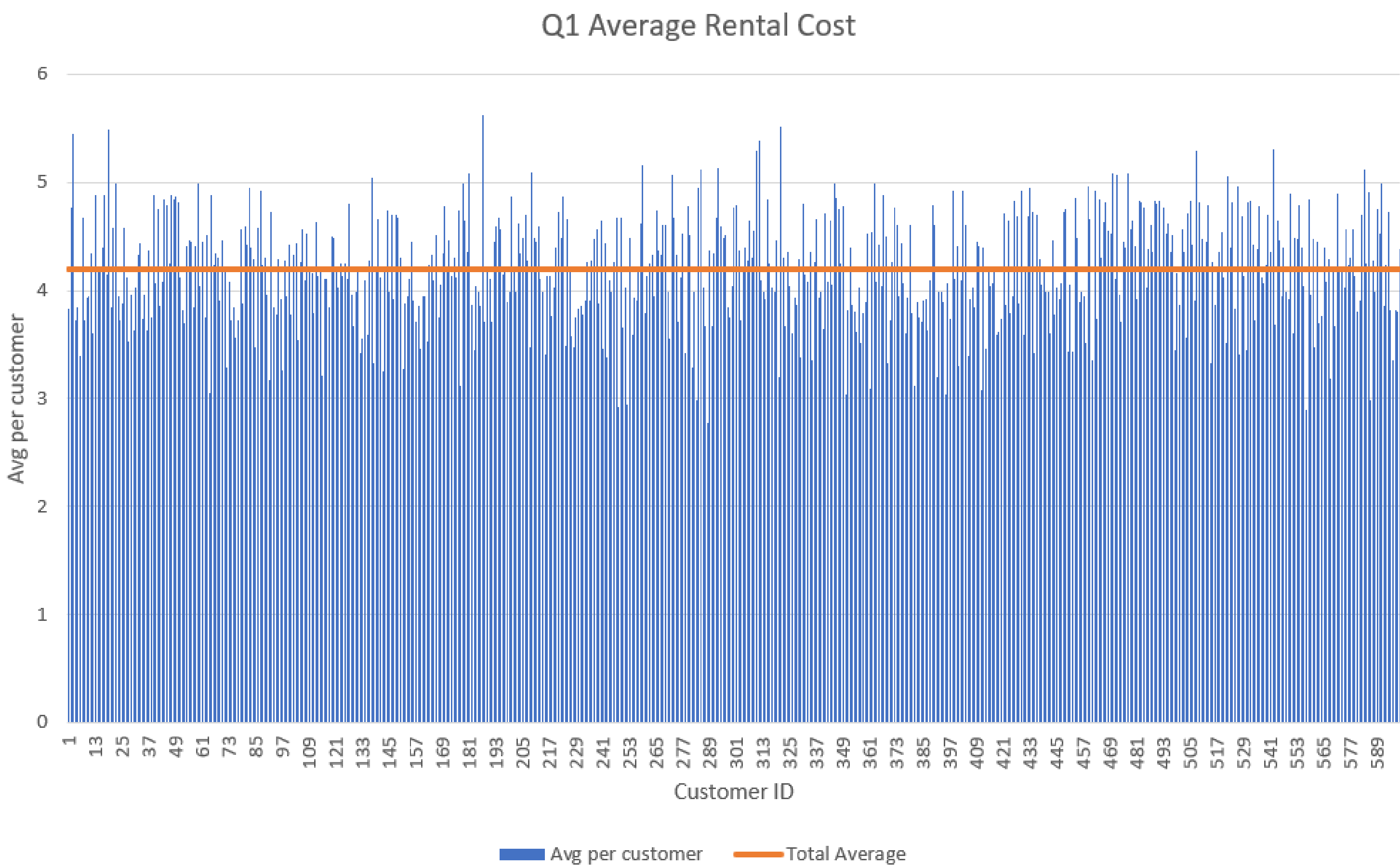
QUESTION 1

Calculate the cost of a campaign consisting in a fidelity card offering a free rental for every 10 rentals.

	rental_day	count
	timestamp without time zone	bigint
week 1	2005-05-24 00:00:00	8
	2005-05-25 00:00:00	137
	2005-05-26 00:00:00	174
	2005-05-27 00:00:00	166
	2005-05-28 00:00:00	196
	2005-05-29 00:00:00	154
	2005-05-30 00:00:00	158
	2005-05-31 00:00:00	163
week 2	2005-06-14 00:00:00	16
	2005-06-15 00:00:00	348
	2005-06-16 00:00:00	324
	2005-06-17 00:00:00	325
	2005-06-18 00:00:00	344
	2005-06-19 00:00:00	348
	2005-06-20 00:00:00	331
	2005-06-21 00:00:00	275
week 3	2005-07-05 00:00:00	27
	2005-07-06 00:00:00	504
	2005-07-07 00:00:00	461
	2005-07-08 00:00:00	512
	2005-07-09 00:00:00	513
	2005-07-10 00:00:00	480
	2005-07-11 00:00:00	461
	2005-07-12 00:00:00	495
week 4	2005-07-26 00:00:00	33
	2005-07-27 00:00:00	649
	2005-07-28 00:00:00	620

As we see on this table, the data has not been collected consistently through the entire period. There's data for full non-consecutive weeks. I'll use four of these weeks and assume they represent a full month.

The graph below shows the calculation of the average cost of a rental, which is used to estimate the campaign cost.



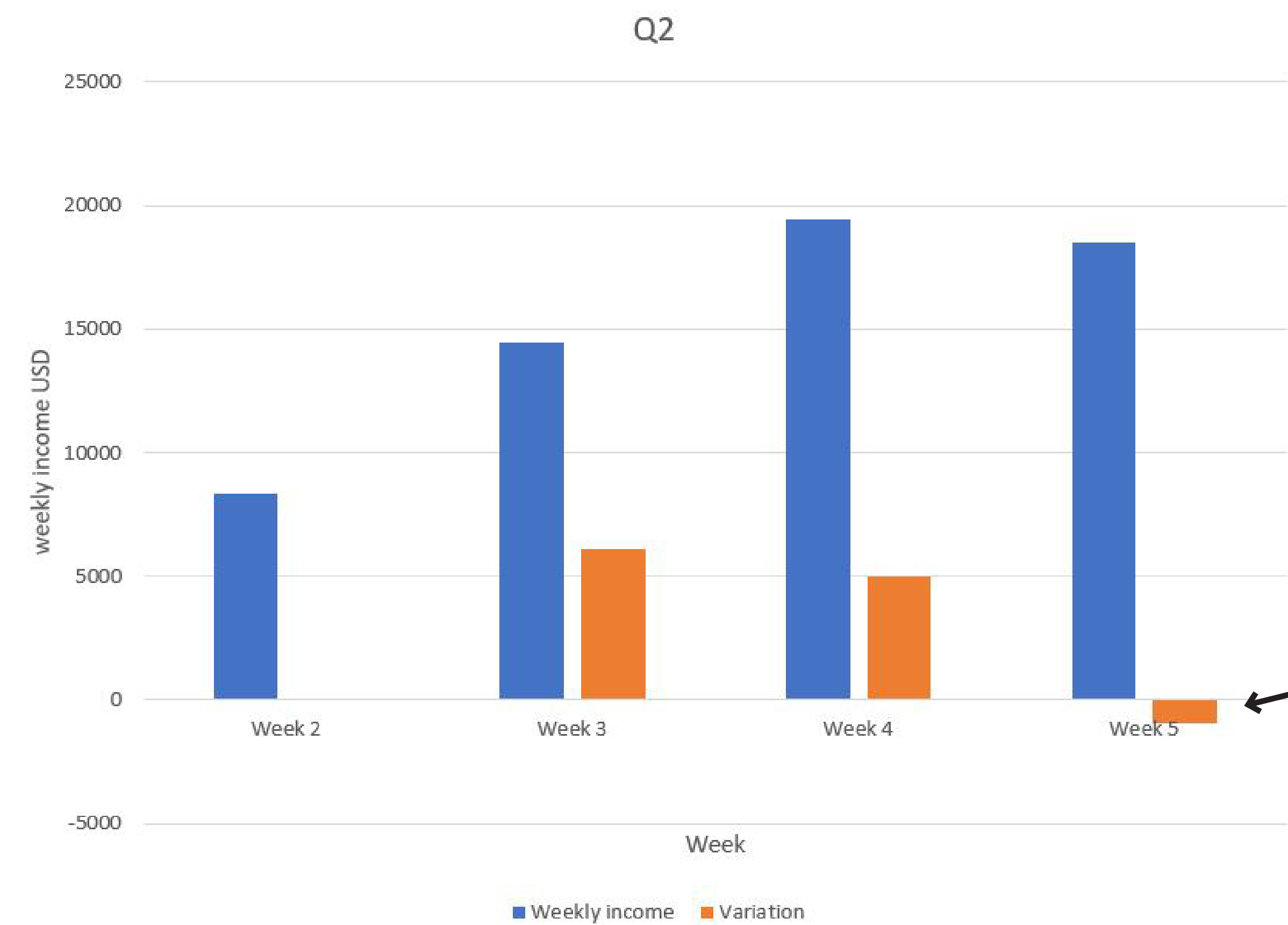
The final query used to provide the estimated cost just provides a single value, so it's not possible to illustrate it through a graph or a table. The previous two images represent part of the two subqueries used in the final query. The average monthly cost of the campaign would be US\$ 4822.

QUESTION 2

When would be the best time of the year to launch this campaign ?

To answer this I'd look at the income generated by the business every month and it's variation from month to month. I would launch the campaign when the generated income starts decreasing.

Due to the lack of data throughout the entire year, I simulated this calculation from week to week for the 5 weeks of data collected in the provided database.

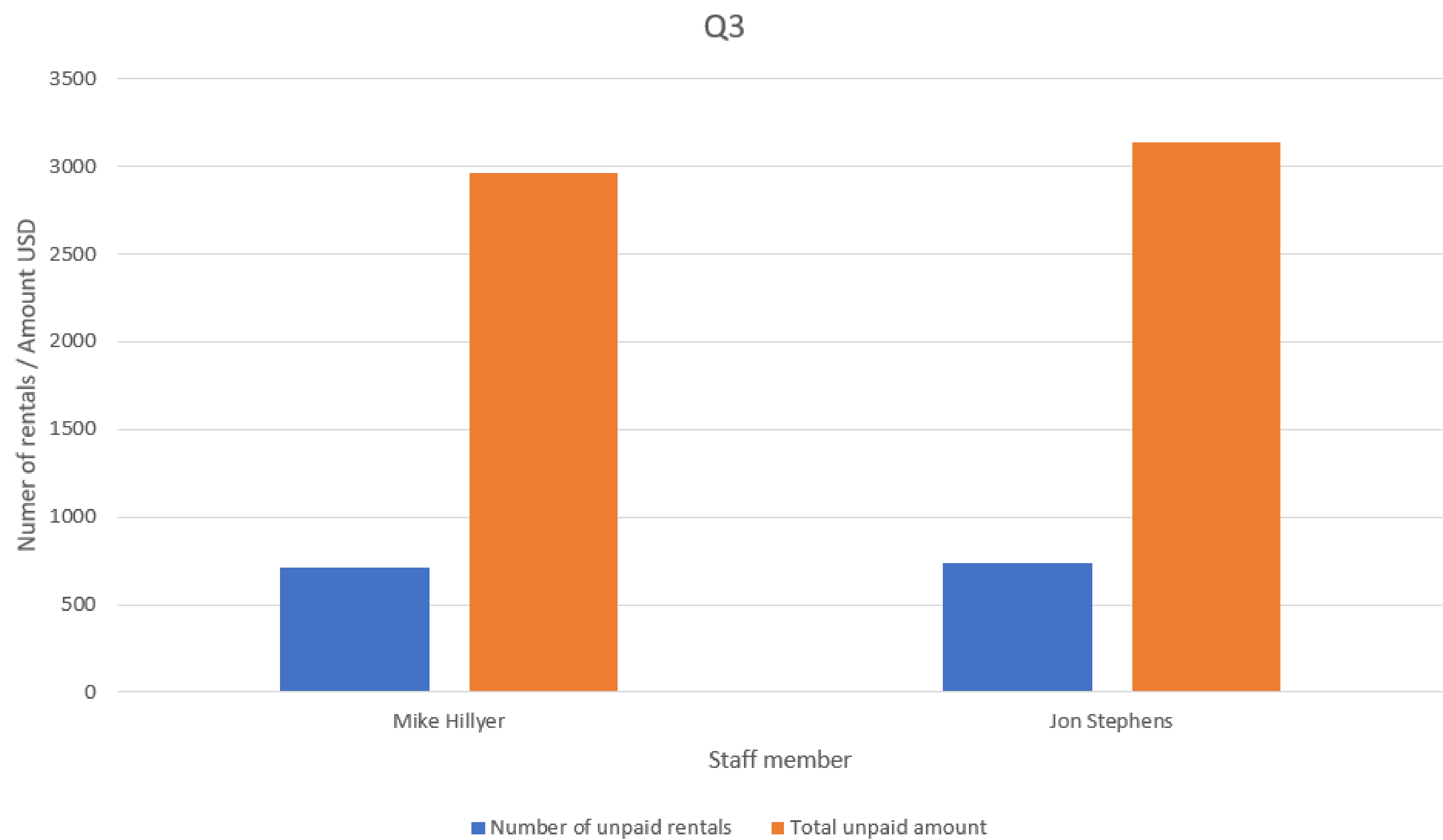


We see there is a decrease on week 5 in the weekly generated income. This would be a good time to launch the campaign and motivate the customers to keep renting movies during periods of lower demand.

QUESTION 3

Calculate the total amount due by customers from unpaid rentals and separate it by the staff member in charge of each rental.

For this question I assume all the rentals without payment information are unpaid rentals. This is probably not the case as all the rentals from week 1 have no payment data at all and it's probably due to the data collection process. However, for the purpose of this exercise I'll assume all of these are unpaid rentals.



The results show almost no difference between staff members in charge of the unpaid rentals. We could assume then that the reasons for not paying the rentals is not the lack of attention from any of the two staff members.

QUESTION 4

Rank the actors by the income they generate and assign them a number of stars from 1 to 5 based on this generated income.

actor_id [PK] integer	actor_name text	revenue_generated numeric	stars integer
58	Akroyd, Christian	2378.97	5
182	Akroyd, Debbie	1390.55	2
92	Akroyd, Kirsten	2056.71	5
118	Allen, Cuba	1526.48	2
145	Allen, Kim	1787.52	4
194	Allen, Meryl	1571.54	2
76	Astaire, Angelina	1755.53	4
112	Bacall, Russell	1854.98	4
190	Bailey, Audrey	1248	1
67	Bailey, Jessica	1582.34	2
115	Bale, Harrison	1606.35	3
187	Ball, Renee	1875.47	4
47	Barrymore, Julia	1676.22	3
158	Basinger, Vivien	2025.13	5
174	Bening, Michael	1295.42	1
124	Bening, Scarlett	1582.67	2
14	Bergen, Vivien	2051.21	5
121	Bergman, Liza	1595.59	3
81	Beverly, Christopher	1888.68	4

In this case, a table is more useful than a graph. This table could be a reference guide for the owners to select the movies from the actors that generate more income and therefore make the business more succesful.

I ordered the table by the actor’s last name so that they can be found easily.