

1. Variables like stake, GGR, bet type and sport type can help identify users' betting preferences and history. With those variables in mind, distinct groups can be created, and incentives can be personalized for each of them.

For this time of year, I would focus on users whose first or second favorite sport appears to be football. This would be determined by much of their total wagered stakes a user placed on football in the previous season(s). From that, a "football stake" segment can be created, based on users' total stake in football during the last football season. Then I would determine whether a user's profit was positive or negative overall (positive if their GGR is low, negative if their GGR is high) to create a "profit" segment, and lastly, a segment related to the type of bet that the user prefers.

	Football Stake	User Profit	Bet Type
Users that have not been profitable to the company and are likely to return without much incentive.	High	Positive	Straight
	High	Positive	Parlay
	High	Negative	Straight
	High	Negative	Parlay
Users that are moderately profitable and may return; can likely be swayed with a moderate incentive.	Medium	Positive	Straight
	Medium	Positive	Parlay
	Medium	Negative	Straight
	Medium	Negative	Parlay
Users that would be most profitable and are least likely to return without a good incentive.	Low	Positive	Straight
	Low	Positive	Parlay
	Low	Negative	Straight
	Low	Negative	Parlay

Boxes in orange refer to users who have had good experiences with their past bets and are likely to come back and play even without extra encouragement. FanDuel likely does not need to offer major incentives to these groups.

Boxes in blue refer to users who are indifferent to their previous betting experiences; they did not stake a lot on their bets, so they are less affected by the outcome. There is a chance they may return without incentive, but if they are on the fence, an incentive will likely tip them over.

Boxes in green refer to users who would be the most profitable for the company if they continued to return, but these players have not had good experiences with their past bets and are unlikely to return without a reason. FanDuel should highlight incentives and promotions to these groups.

2. Code:

```
SELECT COUNT(DISTINCT(playerid))
FROM user
WHERE DATEPART('year', activation_date) = 2019;
```

This is assuming that “first activity” in the description of the activation_date field refers to a bet. For a more accurate number of new users, we could include a filter using registered_date to show only users who also registered in 2019.

3. Code:

```
SELECT u.playerid,
       alias,
       email,
       SUM(CASE WHEN DATEPART('year', betplaceddate) = 2019 THEN stake END) as total_
stake_2019,
       ROUND(SUM(CASE WHEN DATEPART('year', betplaceddate) = 2019 THEN winning END)::
decimal / total_stake_2019, 2) AS margin_2019,
       MAX(betplaceddate) AS last_bet_placed_date,
       SUM(payment_amount) AS total_approved_deposits
FROM user u
JOIN activity a on u.playerid = a.playerid
JOIN deposit d on u.playerid = d.playerid and d.payment_status = 'a'
GROUP BY u.playerid, alias, email;
```

4. Code:

```
SELECT ROUND(COUNT(DISTINCT CASE WHEN bettype = 'parlay' then betid END)::DECIMA
L / COUNT(DISTINCT(betid)) * 100, 2) AS pct_parlays,
       DATEPART('month', betplaceddate) AS month
FROM activity
WHERE betplaceddate BETWEEN '2019-01-01' and '2019-04-30'
GROUP BY month;
```

5. Code:

```
SELECT COUNT(registration_date)/COUNT(activation_date) as reg_to_act,  
       DATEPART('month', betpaceddate) AS month  
FROM user  
WHERE activation_date BETWEEN '2019-01-01' and '2019-04-30'  
GROUP BY month;
```