

Project Deliverable - Sprint 5a

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Report 1 Heading: 'TOP 10' Highest Donation Activity Facilities

Benefits & Business Uses (Value): This report provides valuable insights into the performance of the top ten blood donation facilities. By aggregating data on total donations, total volume donated, and average donation volume, the report helps identify the facilities with the highest donation activity. The Latest Donation date field indicates the most recent donation, allowing for timely operational adjustments and scheduling of donations.

The Facility Name and contact details are also included, making it easy to follow up with top-performing facilities or assess the impact of specific donation centers on overall donation levels. This report aids decision-making regarding resource allocation, donor outreach, and improving donation campaigns. It provides the necessary data to prioritize facility support, recognize high traffic donation centers, and enhances operational efficiency across donation centers through a concise reporting of those highest traffic centers which allows for the proper resource allocations to take place.

```
SELECT
    CONCAT(UPPER(rf.Name), ' Facility') AS Facility_Name,
    rf.Facility_Type,
    rf.Email AS Facility_Email,
    rf.Phone AS Facility_Phone,
    rf.Fax AS Facility_Fax,
    COUNT(d.Donation_ID) AS Total_Donations,
    ROUND(SUM(b.Volume), 2) AS Total_Volume_Donated,
    DATE_FORMAT(MAX(d.Collection_DateTime), '%Y-%m-%d') AS Latest_Donation,
    ROUND(AVG(b.Volume), 2) AS Avg_Volume_Donated,
    TRIM(rf.Email) AS Facility_Email_Cleaned
FROM Donation d
JOIN ReceivingFacility rf
    ON CAST(SUBSTRING(d.Donation_Center_ID, 3) AS UNSIGNED) =
rf.Receiving_Facility_ID
JOIN Blood b ON d.Donation_ID = b.Donation_ID
WHERE d.Donation_Center_ID IS NOT NULL
GROUP BY rf.Name, rf.Facility_Type, rf.Email, rf.Phone, rf.Fax
ORDER BY Total_Donations DESC
limit 10;
```

Screenshot of output (two images as it was too wide):

	Facility_Name	Facility_Type	Facility_Email	Facility_Phone	Facility_Fax	Total_Donations	Total_Volume_Donate	
1	OAKWOOD FAMILY CLINIC	Clinic	contact@oakwoodclinic.com	234-567-8903	[NULL]	2	870	2C
2	DOWNTOWN HEALTH CLIN	Clinic	contact@downtownclinic.co	234-567-8901	[NULL]	2	900	2C
3	WESTSIDE FAMILY CLINIC	Fz Clinic	contact@westsideclinic.com	890-123-4567	[NULL]	1	480	2C
4	ADVANCED TESTING LABOF	Laboratory	info@advancedtesting.com	567-890-1235	[NULL]	1	480	2C
5	BRIGHT FUTURES CLINIC	Far Clinic	info@brightfuturesclinic.com	012-345-6781	[NULL]	1	460	2C
6	RIVER VALLEY MEDICAL CE	Hospital	info@rivervalley.com	456-789-0123	[NULL]	1	400	2C
7	LAKESIDE REGIONAL HOSPI	Hospital	info@lakesideregional.com	123-456-7891	[NULL]	1	420	2C
8	HEALTHY LIFE CLINIC	Facilit	info@healthylifeclinic.com	890-123-4568	[NULL]	1	460	2C
9	GOLDEN STATE MEDICAL C	Hospital	info@goldenstatemedical.c	678-901-2347	[NULL]	1	430	2C
10	NORTHEAST TESTING LAB	F Laboratory	info@northeasttesting.com	789-012-3456	[NULL]	1	500	2C

	Facility_Phone	Facility_Fax	Total_Donations	Total_Volume_Donate	Latest_Donation	Avg_Volume_Donate	Facility_Email_Clean
1	234-567-8903	[NULL]	2	870	2024-11-05	435	contact@oakwoodclinic.com
2	234-567-8901	[NULL]	2	900	2024-10-16	450	contact@downtownclinic.co
3	890-123-4567	[NULL]	1	480	2024-10-22	480	contact@westsideclinic.com
4	567-890-1235	[NULL]	1	480	2024-10-29	480	info@advancedtesting.com
5	012-345-6781	[NULL]	1	460	2024-11-13	460	info@brightfuturesclinic.com
6	456-789-0123	[NULL]	1	400	2024-10-18	400	info@rivervalley.com
7	123-456-7891	[NULL]	1	420	2024-10-25	420	info@lakesideregional.com
8	890-123-4568	[NULL]	1	460	2024-11-01	460	info@healthylifeclinic.com
9	678-901-2347	[NULL]	1	430	2024-11-09	430	info@goldenstatemedical.c
10	789-012-3456	[NULL]	1	500	2024-10-21	500	info@northeasttesting.com

Report 2 Heading: “Top Donor Donation Summary Report”

Benefits & Business Uses (Value): This report provides insights into donor engagement and top-line numbers. It helps identify “Frequent”, “Occasional”, and “New” donors, allowing for promotional and retention strategies. Additionally, it might be interesting to see if there is a relationship between donors and average blood volume, because given limited marketing resources, one may want to target people with either total or average blood volume. This should allow the company to follow up with top donors to provide more.

For example, if there were a sudden critical shortage, you may want to target donors with the highest average to most quickly increase supply. In contrast, general marketing throughout the year may target people with higher donor totals because these donors likely donate most frequently over time.

```

SELECT UPPER(don.First_name) AS First_Name,
       UPPER(don.Last_name) AS Last_Name,
       COUNT(d.Donation_ID) AS Total_Donations,
       SUM(b.Volume) AS Total_Blood_Volume,
       ROUND(AVG(b.Volume), 2) AS Avg_Blood_Volume,
       CASE
         WHEN COUNT(d.Donation_ID) >= 5 THEN 'Frequent Donor'
         WHEN COUNT(d.Donation_ID) BETWEEN 2 AND 4 THEN 'Occasional Donor'
         ELSE 'New Donor'
       END AS Donation_Frequency
FROM Donor don
LEFT JOIN Donation d ON don.Donor_ID = d.Donor_ID
LEFT JOIN Blood b ON d.Donation_ID = b.Donation_ID
GROUP BY don.First_name, don.Last_name;

```

Screenshot of output

	ABC First_Name	ABC Last_Name	123 Total_Donations	123 Total_Blood_Volume	123 Avg_Blood_Volume	ABC Donation_Frequency
1	ASHLEY	HALL	1	460	460	New Donor
2	BARBARA	SCOTT	2	870	435	Occasional Donor
3	BRIAN	NELSON	1	400	400	New Donor
4	CHRISTOPHER	JACKSON	1	420	420	New Donor
5	DANIEL	HARRIS	1	380	380	New Donor
6	DAVID	GARCIA	1	500	500	New Donor
7	DONNA	ADAMS	1	[NULL]	[NULL]	New Donor
8	EDWARD	MITCHELL	1	370	370	New Donor
9	ELIZABETH	GONZALEZ	1	430	430	New Donor
10	EMILY	DAVIS	2	400	400	Occasional Donor
11	JAMES	ANDERSON	1	370	370	New Donor
12	JANE	SMITH	6	900	450	Frequent Donor
13	JESSICA	CLARK	1	440	440	New Donor
14	JOHN	DOE	1	[NULL]	[NULL]	New Donor
15	JOSHUA	WRIGHT	1	360	360	New Donor
16	KAREN	PEREZ	1	460	460	New Donor
17	KAREN	WHITE	1	460	460	New Donor
18	KEVIN	GREEN	1	490	490	New Donor
19	LINDA	WILSON	1	450	450	New Donor
20	LISA	CARTER	1	440	440	New Donor
21	MARK	BAKER	1	380	380	New Donor
22	MATTHEW	YOUNG	1	390	390	New Donor
23	MICHAEL	BROWN	3	350	350	Occasional Donor

Report 3 Heading: 'Blood Product Composition'

Benefits & Business Uses (Value): This report helps us understand the quality and types of blood available for different medical uses. By looking at average protein and hemoglobin levels for each blood type, hospitals and blood banks can decide which donations are best for certain treatments. The report also checks each sample's hemoglobin, hematocrit, and platelet counts, making sure they're good quality and meet standards. Another part of the report looks at total protein and white blood cell counts across blood types, which helps in planning inventory and making sure the right blood products are available. This data helps with decisions in quality control, donor recruitment, and managing blood supplies to improve patient care.

Script:

```

Blood_ID,
Rh_Type,
Protien_Level,
Hgb,
Hct,
Plt,
WBC_ID,
Status AS Test_Status,
ROUND(AVG(Protien_Level), 2) AS Avg_Protein_Level_By_Rh,
MAX(Hgb) AS Max_Hemoglobin_By_Blood_ID,
MIN(Hct) AS Min_Hematocrit_By_Rh,
CASE
    WHEN WBC_ID < 5.0 THEN 'Low'
    WHEN WBC_ID BETWEEN 5.0 AND 11.0 THEN 'Normal'
    ELSE 'High'
END AS WBC_Class,
CASE
    WHEN Status = 'Complete' THEN 'Test Completed'
    WHEN Status = 'Pending' THEN 'Test Pending'
    ELSE 'Status Unknown'
END AS Test_Status_Description
FROM (
    SELECT
        PRBC.Blood_ID,
        PRBC.Rh AS Rh_Type,
        PLSM.Protien_Level,
        PRBC.Hgb,
        WRBC.Hct,
        PLTS.Plt,
        WRBC.WBC_ID,
        TestPanel.Status
    FROM
        PRBC
    JOIN
        WRBC ON PRBC.Blood_ID = WRBC.Blood_ID
    JOIN
        PLSM ON PRBC.Blood_ID = PLSM.Blood_ID
    JOIN
        PLTS ON PRBC.Blood_ID = PLTS.Blood_ID
    JOIN
        TestPanel ON PRBC.Blood_ID = TestPanel.Test_Panel_ID
) AS Blood_Data
GROUP BY
    Blood_ID, Rh_Type, Protien_Level, Hgb, Hct, Plt, WBC_ID, Status
ORDER BY
    Blood_ID:

```

Output:

PRBC(+1) X													
SELECT Blood_ID, Rh_Type, Protien_Level, Hgb, Hct, Plt, WBC_ID, Test_Status, Avg_Protein_Level_By_Rh, Max_Hemoglobin_By_Blood_ID													
	Blood_ID	Rh_Type	Protien_Level	Hgb	Hct	Plt	WBC_ID	Test_Status	Avg_Protein_Level_By_Rh	Max_Hemoglobin_By_Blood_ID			
1	1	+	7.2	14.5	44	25	1	Comp	7.2	14.5			
2	2	-	6.9	13	39	30.5	2	Pending	6.9	13			
3	3	+	7.5	15.2	46	21	3	Failed	7.5	15.2			
4	4	-	8.1	12.8	38.5	28.2	4	InProg	8.1	12.8			
5	5	+	6.7	14	43.5	35.1	5	Comp	6.7	14			
6	6	-	7.4	13.5	41	26.3	6	Pending	7.4	13.5			
7	7	+	8	15	45.5	31.8	7	Comp	8	15			
8	8	-	6.8	14.2	42	24.4	8	InProg	6.8	14.2			
9	9	+	7.1	14.9	44.5	29.9	9	Pending	7.1	14.9			
10	10	-	7.3	13.8	40.5	37	10	Comp	7.3	13.8			
11	11	+	7.8	14.1	43	33.5	11	InProg	7.8	14.1			
12	12	-	6.9	12.5	37	38.6	12	Pending	6.9	12.5			
13	13	+	8.2	15.3	46.5	21.2	13	Comp	8.2	15.3			
14	14	-	7	13.2	39.5	27.4	14	Pending	7	13.2			
15	15	+	6.6	14.7	44.7	32	15	Comp	6.6	14.7			
16	16	-	7.9	12.9	38	19.8	16	Pending	7.9	12.9			
17	17	+	8	15.1	45	34.7	17	Comp	8	15.1			
18	18	-	7.4	13.4	40	40	18	InProg	7.4	13.4			
19	19	+	6.5	14.6	43.8	23.6	19	Pending	6.5	14.6			
20	20	-	7.2	13.7	41.5	36.5	20	Comp	7.2	13.7			
21	21	+	6.8	15.4	46.2	20.9	21	InProg	6.8	15.4			
22	22	-	8.3	12.7	37.5	39	22	Pending	8.3	12.7			
23	23	+	7	14.8	44.3	30.2	23	Comp	7	14.8			
24	24	-	7.6	13.6	40.2	25.4	24	Pending	7.6	13.6			
25	25	+	6.9	15.5	46.8	34	25	Comp	6.9	15.5			
26	26	-	7.1	12.6	38.2	22.3	26	Failed	7.1	12.6			
27	27	+	8	14.3	43.2	31	27	InProg	8	14.3			
28	28	-	6.8	13.3	39.8	26.1	28	Comp	6.8	13.3			
29	29	+	7.5	15.6	47	28.5	29	Pending	7.5	15.6			
30	30	-	6.6	12.4	36.5	19.5	30	InProg	6.6	12.4			

123 Min_Hematocrit_By_Rh ▾	ABC WBC_Class ▾	ABC Test_Status_Description ▾
44	Low	Status Unknown
39	Low	Test Pending
46	Low	Status Unknown
38.5	Low	Status Unknown
43.5	Normal	Status Unknown
41	Normal	Test Pending
45.5	Normal	Status Unknown
42	Normal	Status Unknown
44.5	Normal	Test Pending
40.5	Normal	Status Unknown
43	Normal	Status Unknown
37	High	Test Pending
46.5	High	Status Unknown
39.5	High	Test Pending
44.7	High	Status Unknown
38	High	Test Pending
45	High	Status Unknown
40	High	Status Unknown
43.8	High	Test Pending
41.5	High	Status Unknown
46.2	High	Status Unknown
37.5	High	Test Pending
44.3	High	Status Unknown
40.2	High	Test Pending
46.8	High	Status Unknown
38.2	High	Status Unknown
43.2	High	Status Unknown
39.8	High	Status Unknown
47	High	Test Pending
36.5	High	Status Unknown