Assignment Solution:

Question 1. Write an SQL query to find the names of restaurants that have at least one menu item with a price greater than $10.

SQL query:

```
SELECT R.NAME AS RESTAURANT_NAME, M.PRICE
FROM RESTAURANT_INFO R
JOIN MENUITEMS M ON R.RESTAURANT_ID = M.RESTAURANT_ID
WHERE M.PRICE > 10;
```

Output:

RESTAURANT_NAME	PRICE
Restaurant L	91
Restaurant L	97
Restaurant G	21
Restaurant H	82
Restaurant C	23
Restaurant A	64
Restaurant A	40
Restaurant H	75
Restaurant L	95
Restaurant G	53
Restaurant L	25
Restaurant L	25
Restaurant H	88
Restaurant J	41
Restaurant D	90
Restaurant F	24
Restaurant A	42
Restaurant B	65
Restaurant J	52
Restaurant E	85
Restaurant L	60
Restaurant J	24
Restaurant L	65
Restaurant E	23
Restaurant I	41
Restaurant E	73
Restaurant K	62
Restaurant C	95
Restaurant G	94
Restaurant K	75
Restaurant L	31
Restaurant C	91
Restaurant F	11
Restaurant G	37
Restaurant I	49
Restaurant E	89
Restaurant K	75
Restaurant K	82
Restaurant A	38
Restaurant D	87
Restaurant B	76
Restaurant L	64
Restaurant C	69
Restaurant G	74
Restaurant D	96
Restaurant C	11

Question 2. Write an SQL query to retrieve the user names and their corresponding orders where the order total is greater than the average order total for all users.

SQL query:

```
SELECT U.NAME, O.ORDER_ID, O.TOTAL_AMOUNT
FROM USER_INFO U
JOIN ORDERS O ON U.ID = O.USER_ID
WHERE O.TOTAL_AMOUNT > (
                SELECT AVG(TOTAL_AMOUNT)
                FROM ORDERS
);
```

Output:

NAME	ORDER_ID	TOTAL_AMOUNT
John Doe	6	68
Sarah Wilson	7	88
Charles Morgan	8	80
Amanda Roberts	13	62
Christopher Lewis	15	48
Amanda Roberts	16	78
Joseph Scott	17	85
Rebecca Bailey	21	64
Susan Hill	22	91
Laura Turner	23	95
Kevin Hall	26	86
Michelle Lee	28	97
Stephanie White	29	48
Michelle Lee	31	92
Michael Johnson	32	81
Mark Harris	35	48
Jessica Cook	37	60
Linda Miller	38	58
Linda Miller	41	71
Michelle Lee	42	51
Michelle Lee	43	81
Jennifer Clark	45	52
Andrew James	46	79
Patricia Scott	48	98
Rebecca Bailey	49	52
Patricia Scott	51	84
Jane Smith	52	75
Michael Johnson	57	66
William Turner	59	53
John Doe	60	71
David Davis	68	88
John Doe	70	57

Question 3. Write an SQL query to list the names of users whose last names start with 'S' or ends with 'e'.

SQL query:

```
SELECT NAME
FROM USER_INFO
WHERE NAME LIKE 'S%' OR NAME LIKE '%E';
```

Output:

NAME
John Doe
Sarah Wilson
Richard Lee
Susan Hill
Stephanie White
Michelle Lee

Question 4. Write an SQL query to find the total order amounts for each restaurant. If a restaurant has no orders, display the restaurant name and a total amount of 0. Use the COALESCE function to handle null values.

SQL query:

```
SELECT R.NAME RESTAURANT_NAME,
COALESCE(SUM(O.TOTAL_AMOUNT), 0) AS TOTAL_ORDER_AMOUNT
FROM RESTAURANT_INFO R
LEFT JOIN ORDERS O ON R.RESTAURANT_ID = O.RESTAURANT_ID
GROUP BY R.NAME;
```

Output:

RESTAURANT_NAME	TOTAL_ORDER_AMOUNT
Restaurant A	200
Restaurant B	418
Restaurant C	133
Restaurant D	275
Restaurant E	251
Restaurant F	142
Restaurant G	322
Restaurant H	12
Restaurant I	477
Restaurant J	313
Restaurant K	229
Restaurant L	573

Question 5. Write a query to find out how many orders were placed using cash or credit.

SQL query:

```
SELECT COUNT(ORDER_ID) AS TOTAL_ORDERS,
        CASE
                WHEN PAY_TYPE_ID = 1 THEN 'CASH'
                WHEN PAY_TYPE_ID = 2 THEN 'CREDIT'
        END AS  PAYMENT_TYPE
FROM PAYMENT_TRANSACTIONS
WHERE PAY_TYPE_ID IN (1, 2)
GROUP BY PAY_TYPE_ID;
```

Output:

TOTAL_ORDERS	PAYMENT_TYPE
40	CASH
31	CREDIT