1)

Char(3)

Numeric(12,2)

Varchar

Varchar

real

Int

2)

```
CREATE TABLE data(
        month char(3),
        cost numeric(12,2),
        full_name varchar(255),
        ID varchar(30),
        coin_price real,
        views int,
        PRIMARY KEY(ID),
        FOREIGN KEY(ID) REFERENCES users(social_number)
);
```

3)

a)

WHERE

 (((SELECT COUNT(name) from student) - (SELECT COUNT(DISTINCT name) from student))=0)

b)

WHERE LEFT(first_name, 2)='me' and RIGHT(last_name,3)='avi'

c)

SELECT concat(first_name,last_name)

4)

A)

```
4
5
6    ---- Q4-A
7    SELECT film.title,film."length" FROM film,film_category,category
8    WHERE film.film_id = film_category.film_id AND
9    film_category.category_id = category.category_id AND
10   category."name" = 'Action' AND film.title LIKE 'C%'
11   ORDER BY film."length" DESC;
12
```

Message | Result 1

title	length
Casualties Encino	179
Campus Remember	167
Celebrity Horn	110
Crow Grease	104
Clueless Bucket	95
Caddyshack Jedi	52

B)

```
13   ---- Q4-B
14   SELECT film.title,lang."name" as "language" FROM film,"language" AS lang
15   WHERE film.language_id = lang.language_id AND
16   film.rental_rate > (SELECT AVG(rental_rate) FROM film)
17   ORDER BY film.rental_rate DESC
18   LIMIT 5;
19
```

Message | Result 1

title	language
Grosse Wonderful	English
Airport Pollock	English
Bright Encounters	English
Ace Goldfinger	English
Chamber Italian	English

C)

```
20    ---- Q4-C
21    SELECT customer.customer_id FROM customer,rental,inventory,film,film_actor,actor
22    WHERE customer.customer_id = rental.customer_id AND
23    rental.inventory_id = inventory.inventory_id AND
24    inventory.film_id = film.film_id AND
25    film.film_id = film_actor.film_id AND
26    film_actor.actor_id = actor.actor_id AND
27    actor.actor_id = 152
28    GROUP BY customer.customer_id
29    HAVING COUNT(film.film_id) >= 3;
30
```

Message | Result 1

customer_id
257
210
57
186
480
249
16
365
122

D)

```
31    ---- Q4-D
32    SELECT address.address,SUM(payment.amount) AS total_amount FROM store,address,staff,payment
33    WHERE store.address_id = address.address_id AND
34    store.store_id = staff.store_id AND
35    staff.staff_id = payment.staff_id
36    GROUP BY address.address
37    ORDER BY total_amount
38    LIMIT 1;
39
```

Message | Result 1

address	total_amount
47 MySakila Drive	30252.12

E)

```
40  ---- Q4-E
41  SELECT film.rating,COUNT(DISTINCT film.film_id) FROM film,inventory,rental WHERE
42  film.film_id = inventory.film_id AND
43  inventory.inventory_id = rental.inventory_id
44  GROUP BY film.rating;
45
46  ---- Q4-F
47  SELECT category_id,
```

Message | Result 1

rating	count
G	171
PG	183
PG-13	213
R	189
NC-17	202

F)

```
46  ---- Q4-F
47  SELECT CAT."name",
48  (
49      SELECT film.title FROM film,film_category
50      WHERE film.film_id = film_category.film_id AND
51      film_category.category_id = CAT.category_id
52      ORDER BY film."length" DESC LIMIT 1
53  ) AS "longest_film",
54  (
55      SELECT film.title FROM film,film_category
56      WHERE film.film_id = film_category.film_id AND
57      film_category.category_id = CAT.category_id
58      ORDER BY film.rental_rate DESC LIMIT 1
59  ) AS "most_rental_rate"
60  FROM category AS CAT;
```

Message | Result 1

name	longest_film	most_rental_rate
Action	Darn Forrester	American Circus
Animation	Gangs Pride	Bikini Borrowers
Children	Fury Murder	Backlash Undefeated
Classics	Conspiracy Spirit	Beast Hunchback
Comedy	Control Anthem	Airplane Sierra
Documentary	Wife Turn	Clerks Angels
Drama	Jacket Frisco	Bright Encounters
Family	King Evolution	Apache Divine
Foreign	Crystal Breaking	Baby Hall
Games	Chicago North	Autumn Crow

5)

A)

```
75  ---- Q5-A
76  SELECT student."id",student."name" FROM student WHERE
77  student."name" LIKE 'M%a';
78
```

id	name
25525	Moreira
10204	Mediratta
69225	Mejia
83462	Mehra
40059	Montilla
26619	Matsukawa
38288	Matsuda
46694	Masamura
18583	Ma

B)

```
79  ---- Q5-B
80  SELECT course.title FROM course,"section" WHERE
81  course.course_id = "section".course_id AND
82  semester = 'Fall' AND "year" = 2009 AND
83  course.dept_name LIKE '%Eng.';
84
```

title
Tort Law

C)

```
85   ---- Q5-C
86   SELECT student."name",course.title FROM student,takes,course WHERE
87   student."id" = takes."id" AND
88   takes.course_id = course.course_id
89   GROUP BY student."id",course.course_id
90   HAVING COUNT(course.course_id) >=3;
91
```

Message | Result 1

name	title
Preuss	Embedded Systems
Date	Embedded Systems
Aiken	Embedded Systems
Noga	Embedded Systems
Karande	Embedded Systems
Prabhakaran	Embedded Systems
Hakkinen	Embedded Systems
Drig	Embedded Systems
Harshman	Embedded Systems
Won	Embedded Systems

D)

```
91
92   ---- Q5-D
93   SELECT prereq_id AS course_id,SUM(credits) AS total_credits FROM prereq,course WHERE
94   course.course_id = prereq.course_id
95   GROUP BY prereq_id
96   HAVING SUM(credits) > 4
97   ORDER BY total_credits DESC;
```

Message | Result 1

course_id	total_credits
852	11
130	10
818	8
403	8
696	8
947	7
416	7
774	7
352	7
694	7
864	7
133	7
123	6

E)

```
 98
 99   ---- Q5-E
100   SELECT concat(classroom.building,' ',classroom.room_number) AS classroom_number
101   FROM classroom,"section",time_slot WHERE
102   (classroom.building,classroom.room_number) = ("section".building,"section".room_number) AND
103   "section".time_slot_id = time_slot.time_slot_id AND
104   "section"."year"=2008 AND "section".semester='Spring'
105   GROUP BY classroom_number
106   HAVING SUM(time_slot.end_hr-time_slot.start_hr) >= 2;
107
```

classroom_number
Gates 707
Taylor 812

F)

```
108   ---- Q5-F
109   SELECT instructor."name", COUNT(course_id) FROM instructor, teaches WHERE
110   instructor."id" = teaches."id" AND
111   teaches."year" = 2003
112   GROUP BY instructor."id"
113   HAVING COUNT(course_id) < (
114       SELECT AVG("c") FROM (SELECT COUNT(course_id) AS "c" FROM instructor, teaches WHERE
115       instructor."id" = teaches."id" AND
116       teaches."year" = 2003
117       GROUP BY instructor."id") AS "avg"
118   );
```

name	count
Mahmoud	1
Kean	1
Tung	1
Mingoz	1
Atanassov	1

G)

```
120   ---- Q5-G
121   SELECT DISTINCT(course.course_id),course.title FROM "section",time_slot,course WHERE
122   "section".time_slot_id = time_slot.time_slot_id AND
123   "section".course_id = course.course_id AND
124   "section".building = 'Taylor' AND "section"."year" = 2007 AND
125   time_slot.start_hr BETWEEN 8 AND 12;
```

Message | Result 1

course_id	title
408	Bankruptcy
631	Plasma Physics

H)

```
127   ---- Q5-H
128   SELECT student."name",SUM(course.credits) as total_credits FROM student,takes,course WHERE
129   student."id" = takes."id" AND
130   takes.course_id = course.course_id AND
131   (takes.grade LIKE 'B%' OR takes.grade LIKE 'A%')
132   GROUP BY student."id";
```

Message | Result 1

name	total_credits
Scibili	21
Towsey	34
Hameed	25
Kocsis	30
Frolova	40
Coppens	44
Raïev	53
Katehakis	16
Hayrapetyan	50
Richter	28
Lagendijk	35
Folkers	36
Tabor	33
Suwanno	25
Xiong	43