Question 1. Class Diagram.

Passenger
- Name
- Address
- Age
- Gender
- Passport Number

- setPassport()

Customers
- Customer ID
- Name
- Address

1..10   chooses a package

Buys

1

Selection

1..n

Package
- setPackage()

1

1..n

1 1 1 1

Booking
- leadPassenger
- packageID
- totalCost
- Payment : Boolean

- displayPackage()
- checkPayment()

1..10

1..n PaymentMade

1

<<included

<<included

<<included

<<included

1

1..n

1

Payment
- passengerName
- Package

- calculateTravelPrice()

Accommodation
- City
- Country
- hotelName
- passengerName

- passengerName()

1

Flight
- Destination
- Date
- Time

- selectDestination()
- selectDate()

1

Insurance
- passengerName
- Rate
- Duration

- setDuration()
- setRate()

1

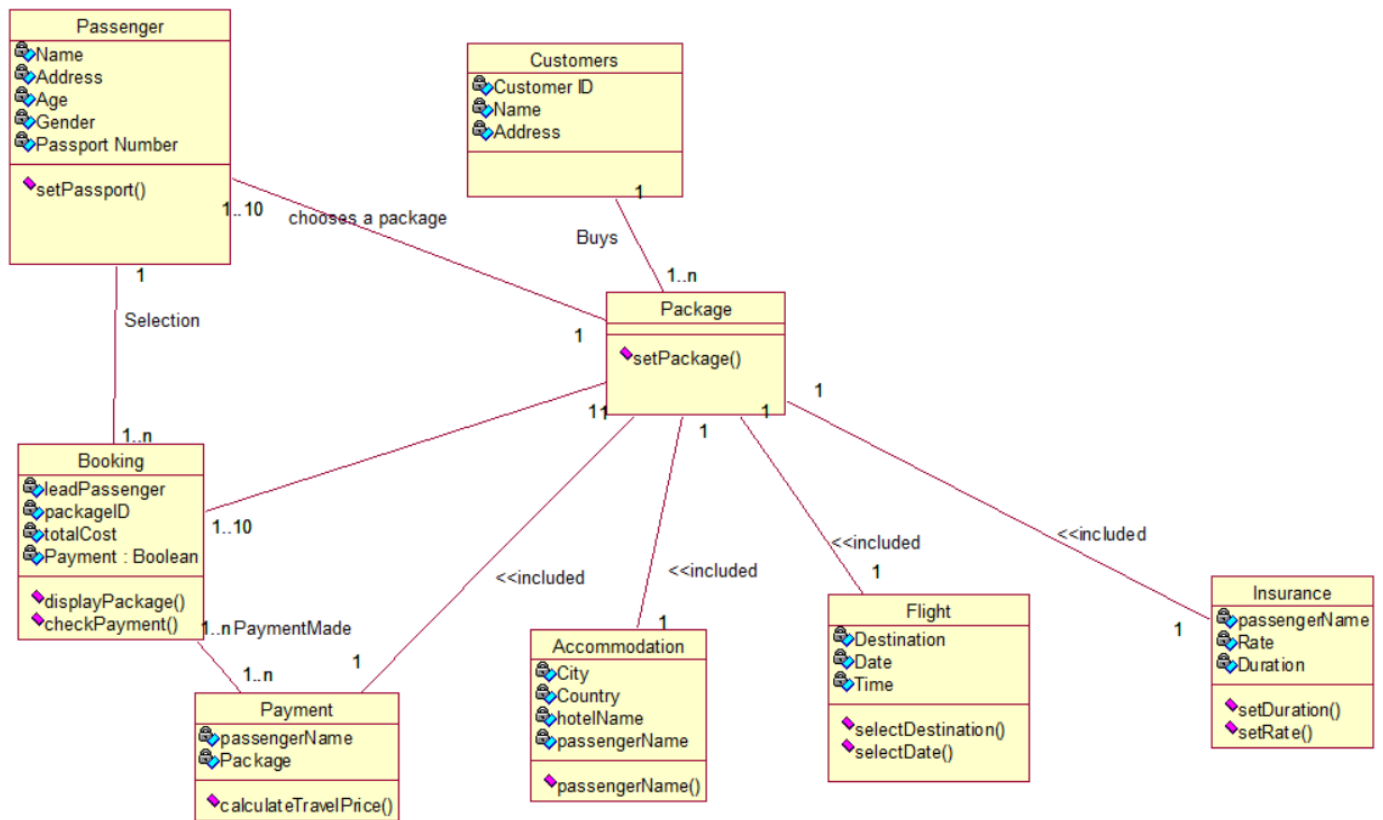**Question 2**. **Successful creation.** I changed the column Campaign_Number(Campaign) to Campaign_No.

```
sql+                                                              [ - ] [ □ ] [ X ]

SQL*Plus: Release 11.2.0.3.0 Production on Sun Apr 17 20:11:30 2016

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Connected to:
Oracle Database 11g Enterprise Edition Release 11.2.0.1.0 - 64bit Production
With the Partitioning, Automatic Storage Management, OLAP, Data Mining
and Real Application Testing options

SQL> CREATE TABLE Budget(
  2   Budget_Code VARCHAR2 (15) PRIMARY KEY,
  3   Campaign_Number NUMBER (10) NOT NULL,
  4   Budget NUMBER (4,2) NOT NULL);

Table created.

SQL> CREATE TABLE Campaign(
  2   Campaign_Number NUMBER (10) PRIMARY KEY,
  3   Client_Name VARCHAR2 (20) NOT NULL,          Campaign  No VARCHAR2 (20) NOT NULL,
  4   Address VARCHAR2 (30) NOT NULL,
  5   Country VARCHAR2 (10) NOT NULL);

Table created.

SQL> ALTER TABLE Budget
  2   ADD CONSTRAINT Campaign_Number_FK FOREIGN KEY (Campaign_Number) REFERENCES
Campaign (Campaign_Number);

Table altered.

SQL> CREATE TABLE Advert(
  2   Advert_No VARCHAR2 (15) PRIMARY KEY,
  3   Campaign_Number NUMBER (10),
  4   Advert_Name VARCHAR2 (20) NOT NULL,
  5   Advert_Aim VARCHAR2 (50) NOT NULL,
  6   Platform VARCHAR2 (10) NOT NULL);

Table created.

SQL> ALTER TABLE Advert
  2   ADD CONSTRAINT Campaign_No_FK  FOREIGN KEY (Campaign_Number) REFERENCES Cam
paign (Campaign_Number);

Table altered.

SQL> CREATE TABLE Hours(
  2   Employee_No VARCHAR2 (15),
  3   Advert_No VARCHAR2 (15),
  4   Hours_Worked NUMBER (2,2) NOT NULL,
  5   Rate NUMBER (3,2) NOT NULL,
  6   Date_Worked DATE NOT NULL);

Table created.

SQL> ALTER TABLE Hours
  2   ADD CONSTRAINT Advert_No_FK FOREIGN KEY (Advert_No) REFERENCES Advert (Adve
rt_No);

Table altered.

SQL> CREATE TABLE Employee(
  2   Emp_Number VARCHAR2 (15) PRIMARY KEY,
  3   Title VARCHAR2 (3) NOT NULL,
  4   Last_Name VARCHAR2 (10) NOT NULL,
  5   First_Name VARCHAR2 (10) NOT NULL,
  6   DOB DATE NOT NULL,
  7   Start_Date DATE NOT NULL,
  8   Postcode NUMBER (7) NOT NULL,
  9   Telephone NUMBER (10) NOT NULL);

Table created.

SQL> ALTER TABLE Hours
  2   ADD CONSTRAINT Employee_No_FK FOREIGN KEY (Employee_No) REFERENCES Employee
 (Emp_Number);

Table altered.

SQL> _
```

I had to modify the Numbers, because the way I see in lectures does not work.

```
sql+                                                    [ - ][ □ ][ X ]
ORA-02291: integrity constraint (ATANASO4.CAMPAIGN_NUMBER_FK) violated - parent
key not found

SQL> ALTER TABLE
  2  Budget
  3  MODIFY(
  4  Budget NUMBER (6,2)
  5  );

Table altered.

SQL> ALTER TABLE
  2  Hours
  3  MODIFY(
  4  Hours_Worked NUMBER (4,2)
  5  Rate NUMBER (5,2)
  6  );
Rate NUMBER (5,2)
*
ERROR at line 5:
ORA-00907: missing right parenthesis

SQL> ALTER TABLE
  2  Hours
  3  MODIFY(
  4  Hours_Worked NUMBER (4,2)
  5  );

Table altered.

SQL> ALTER TABLE
  2  Hours
  3  MODIFY(
  4  Rate NUMBER (5,2)
  5  );

Table altered.

SQL> _
```

Question 3. List of all entries in each table. I've typed wrong data for ADVERT_AIM, that's why I draw a text box with new data.

```
■ sql+                                                                                                                  ─ ▢ ✕

SQL> SELECT * FROM Employee;

EMP_NUMBER      TIT LAST_NAME    FIRST_NAME DOB       START_DAT  POSTCODE  TELEPHONE
─────────────── ─── ──────────── ────────── ───────── ───────── ───────── ─────────
1111            Mr  Atanasov     Plamen     30-MAR-95 05-JUN-14    548787   2154879
2222            Mr  Veselinov    Biser      20-MAR-96 08-JAN-08    151544   1654854
3333            Mr  Atanasov     Anton      27-DEC-91 06-FEB-04    515154   1514545
4444            Mr  Atanasov     Atanas     10-NOV-68 26-OCT-06    787631   9865654
5555            Mr  Singh        Inder      08-MAY-72 06-DEC-01    659897   1545674
6666            Mrs Foreman      Sharon     06-JUN-65 26-JUL-05   4154157  49797456
7777            Mr  Kostadinov   Lyubomir   06-MAY-65 26-MAY-04   5465665  65454547
8888            Mrs Atanasova    Mariya     26-FEB-72 20-OCT-09   5454873  65646878
9999            Mrs Ivanova      Finka      25-JUL-62 20-DEC-03   5464788  65686789
1010            Ms  Kostadinov   Viki       27-DEC-85 22-MAR-15   6597488  56486798

10 rows selected.

SQL> SELECT * FROM Hours;

EMPLOYEE_NO     ADVERT_NO      HOURS_WORKED      RATE DATE_WORK
─────────────── ────────────── ──────────── ───────── ─────────
1111            ADV00                    10      7.25 01-JUN-15
2222            ADV10                     8      10.2 10-MAR-09
3333            ADV20                    10     15.25 15-MAR-04
4444            ADV30                    20       8.3 20-FEB-07
5555            ADV40                     4     15.45 20-FEB-02
6666            ADV50                     6     12.99 30-OCT-06
7777            ADV60                     7        14 25-NOV-06
8888            ADV70                     1      11.2 16-DEC-10
9999            ADV80                     5       9.3 05-MAY-04
1010            ADV90                     9       6.3 05-FEB-16

10 rows selected.

SQL> SELECT * FROM Advert;

ADVERT_NO       CAMPAIGN_NUMBER ADVERT_NAME         ADVERT_AIM                                    PLATFORM
─────────────── ─────────────── ─────────────────── ───────────────────────────────────────────  ─────────
ADV10                      1010 BEST COOCKIES       ┌──────────────────────────────────────────┐  TV
ADV20                      1009 BEST TOYS           │ 51456489746543546548                       │  Internet
ADV30                      1008 Truck Services      │ 5165454848465659878                        │  Radio
ADV40                      1007 Pharmacy            │ 362647446656587878787                      │  TV
ADV50                      1006 Carpet cleaner      │ 16146447987656568989879                    │  Billboards
ADV60                      1005 Newest songs        │ 6265659979789745454564564454878787879797887874  Radio
ADV70                      1004 Best Watches        │ 848598797878745465464                      │  TV
ADV80                      1003 Clubs               │ 659897987464313233                         │  Internet
ADV90                      1002 Movies              │ 6265978979842131315                        │  Internet
ADV00                      1001 PC                  │ 564979456263598979846                      │  Internet
                                                    └──────────────────────────────────────────┘
10 rows selected.

SQL> SELECT * FROM Campaign;

CAMPAIGN_NUMBER CLIENT_NAME          ADDRESS                 COUNTRY
─────────────── ──────────────────── ─────────────────────── ───────
           1001 Plamen Atanasov      Nikolapet St            BG
           1002 Biser Veselinov      Haidushka St            BG
           1003 Anton Atanasov       Yanks St                BG
           1004 Atanas Atanasov      Taylor St               USA
           1005 Inder Singh          Virginia St             USA
           1006 Sharon Foreman       Meriden St              USA
           1007 Lyubomir Kostadinov  Close St                UK
           1008 Mariya Atanasova     Banks St                BG
           1009 Finka Ivanova        Vios St                 UAE
           1010 Viki Kostadinova     Das St                  UAE

10 rows selected.

SQL> SELECT * FROM Budget;

BUDGET_CODE     CAMPAIGN_NUMBER     BUDGET
─────────────── ─────────────── ──────────
AA101                      1010     600.25
AB102                      1009     300.25
AC103                      1008     500.45
AD104                      1007      100.5
AE105                      1006     200.45
Af106                      1005     450.25
AG107                      1004        220
AH108                      1003         50
AI109                      1002        490
```

List of all entries in each table.

.

Question 3. 1ˢᵗ List of all Employees who were hire before 01/01/2006, 2ⁿᵈ List of all Employee Names whose rate exceeds 12.98 GBP, 3ʳᵈ List of Campaign Details whose Budget exceeds 499 GBP.

```
sql+                                                                              □ ▣ ▨

SQL> SELECT Emp_Number AS "Employee ID", First_Name AS "First Name", Last_Name AS "Last Name", DOB, Start_Date AS "Start Date"
  2  FROM Employee
  3  WHERE Start_Date < '01-Jan-2006';

Employee ID     First Name Last Name  DOB        Start Dat          ┌─────────────────────────┐
─────────────── ────────── ────────── ────────── ─────────          │ List of Employees hired │
3333            Anton      Atanasov   27-DEC-91  06-FEB-04          │ before 01/01/2006.      │
5555            Inder      Singh      08-MAY-72  06-DEC-01          └─────────────────────────┘
6666            Sharon     Foreman    06-JUN-65  26-JUL-05
7777            Lyubomir   Kostadinov 06-MAY-65  26-MAY-04
9999            Finka      Ivanova    25-JUL-62  20-DEC-03

SQL> SELECT em.First_Name AS "First Name", em.Last_Name AS "Last Name", hr.Rate
  2  FROM Employee em, Hours hr
  3  WHERE EMP_NUMBER = EMPLOYEE_NO             ┌─────────────────────────────┐
  4  AND hr.Rate > 12.98;                       │ List of Employee Names whose │
                                                │ rate exceeds 12.98 GBP.      │
First Name Last Name      RATE                  └─────────────────────────────┘
────────── ────────── ──────────
Anton      Atanasov       15.25
Inder      Singh          15.45
Sharon     Foreman        12.99
Lyubomir   Kostadinov        14

SQL> SELECT ca.Campaign_Number AS "Campaign Number",
  2  ca.Client_Name AS "Client Name",
  3  ca.Address,
  4  ca.Country,
  5  b.Budget
  6  FROM Campaign ca,
  7  Budget b
  8  WHERE CAMPAIGN_NUMBER = CAMPAIGN_No
  9  AND b.Budget > 499;

Campaign Number Client Name        ADDRESS                 COUNTRY       BUDGET
─────────────── ────────────────── ─────────────────────── ──────────── ──────────
           1010 Viki Kostadinova   Das St                  UAE           600.25    ┌────────────────────────────┐
           1008 Mariya Atanasova   Banks St                BG            500.45    │ List of Campaign Details whose │
                                                                                   │ Budget exceeds 499 GBP.        │
SQL>                                                                               └────────────────────────────┘
```