

Praktikum Objektorientierte Programmierung in C++ (WS 2020/2021)

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Fahrrad-, E-Bike- und E-Scooter Vermietungen/Bicycle, E-Bike- and E-Scooter Rentals

Es soll eine vereinfachte Vermietungsagentur von Fahrrädern, E-Bikes und E-Scootern programmiert und simuliert werden.
 Das nachfolgende UML-Diagramm zeigt die zu implementierenden Klassen: /

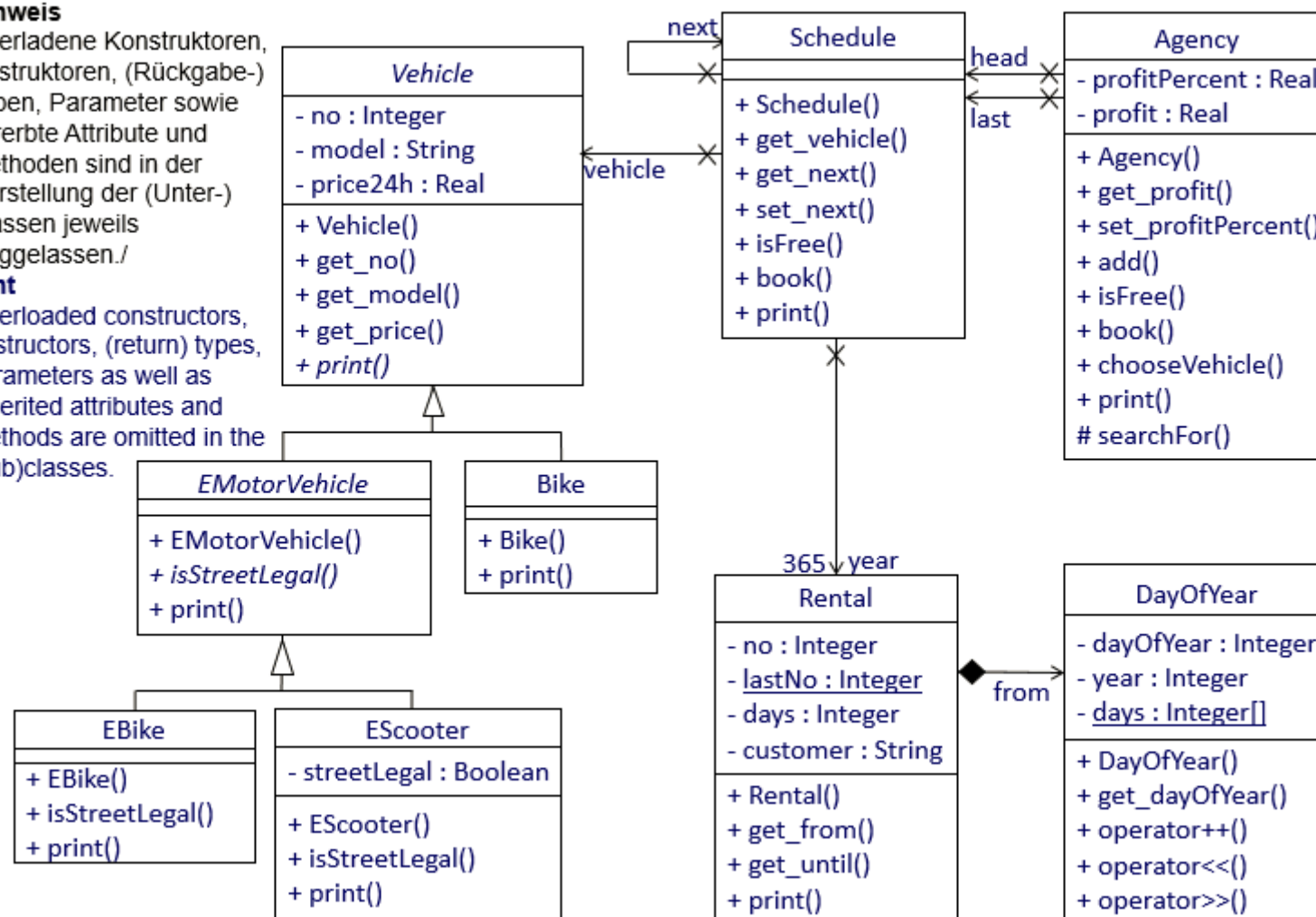
A simplified rental agency for bicycles, E-bikes and E-scooters shall be programmed and simulated.

The following UML diagram shows the to implement classes:

Hinweis

Überladene Konstruktoren, Destruktoren, (Rückgabe-) Typen, Parameter sowie vererbte Attribute und Methoden sind in der Darstellung der (Unter-) Klassen jeweils weggelassen. /

Hint
 Overloaded constructors, destructors, (return) types, parameters as well as inherited attributes and methods are omitted in the (sub)classes.



Teilaufgabe Klasse DayOfYear/Subtask class DayOfYear

Definieren Sie eine Klasse mit Namen **DayOfYear** für die Speicherung eines Datums mit folgenden Membern: /

Define a class with name **DayOfYear** to store a date with following members:

- zwei private ganzzahlige Attributen **dayOfYear** und **year**, wobei für ein Datum die Tage eines Jahres ab dem 1. Januar (Tag 1) bis zum 31. Dezember (Tag 365) gespeichert werden sollen. /
 two private short unsigned integer attributes **dayOfYear** and **year**, whereas for the date the days of a year starting from January 1st (day 1) to December 31st (day 365) shall be stored.
- ein statisches konstantes privates Feld **days** als Klassenvariable mit der Anzahl Tage im Jahr bis jeweils zum 31.1., 28.2., 31.3., ... (Schaltjahre sollen nicht berücksichtigt werden). Diese statische Klassenvariable soll ausserhalb der Klasse mit dem Wert definiert und initialisiert werden. Hinweis: besonders hilfreich ist, anstatt der Anzahl der Tage pro Monat 31, 28, 31, 30, ... eine aufaddierte Anzahl von Tagen am Ende jeden Monats im Feld abzuspeichern, also die Werte 0, 31, 59, 90, 120, ... /
 a static constant private array **days** as class variable storing the number of the days in the year until January 31st, February 28th, March 31st, ... (leap years shall not be regarded). This class variable shall be defined and initialised outside of the class.
 Hint: especially helpful will be instead of the numbers of days in a month 31, 28, 31, 30, ... a summed up number of days at the end of each month to store, i.e. 0, 31, 59, 90, 120, ...
- ein überladener öffentlicher (Standard-) Konstruktor mit zwei Default-Parametern für den Tag mit Defaultwert 1 und das Jahr mit Defaultwert 2021 zur Initialisierung der beiden Attribute. /

an overloaded public (standard) constructor with two default parameters for the day with default value 1 and the year with default value 365 to initialise both attributes.

- ein überladener öffentlicher Konstruktor mit drei Parametern für den Tag, den Monat und das Jahr zur Initialisierung der beiden Attribute. Verwenden Sie zur einfachen Umrechnung von Tag und Monat in den entsprechenden Tag des Jahres das als Klassenvariable definierte Feld **days**, bspw. für den 15. März als Tag 74 (= 31+28+15 = 59+15)/

an overloaded public constructor with three parameters for the day, month and year to initialise the day of the year. To simply calculate the day of the year use class attribute array **days**, e.g. for March 15th as day 74 (= 31+28+15 = 59+15).

- eine öffentliche Methode namens **get_dayOfYear** ohne Parameter, die den Wert des entsprechenden Attributs zurück liefert./

a public method named **get_dayOfYear** without parameters returning the value of the respective attribute.

- ein öffentlicher überladener Member-Operator **++** zur Inkrementierung eines Datums um genau einen Tag.

Hinweis: nach dem 31.12. eines Jahres ist der 1.1. des Folgejahres der nächste Tag./

a public overloaded member operator **++** to increment a date exactly one day.

Hint: after December 31st the day will be January 1st of the following year.

- ein öffentlicher befreundeter überladener Eingabeoperator **>>** zur Eingabe eines Datums von einem Eingabedatenstrom im ISO-Format **yyyy-mm-dd** (siehe Beispiele unten)/

a public friend overloaded input operator **>>** inputting a date in ISO format **yyyy-mm-dd** from a character input stream.

- ein öffentlicher befreundeter überladener Ausgabeoperator **<<** zur Ausgabe eines Datums auf einen Ausgabedatenstrom im ISO-Format **yyyy-mm-dd** (siehe Beispiele unten).

Hinweis: Die Werte für den Monat und Tag können im Rumpf aus dem Attribut **dayOfYear** über das Feld **days** errechnet werden./

a public friend output operator **<<** outputting a date onto an output stream in ISO format **yyyy-mm-dd** (see examples below).

Hint: the values for the month and day can be computed in the body from attributes **dayOfYear** using array **days**.

Teilaufgabe Klasse `Vehicle`/Subtask class `Vehicle`

Definieren Sie eine abstrakte Klasse mit Namen **Vehicle** mit folgenden Mitgliedern:/

Define an abstract class with name **Vehicle** with following members:

- ein privates konstantes ganzzahliges Attribut namens **no** für eine Identifizierungsnummer des Fahrzeugs./
a private constant integer attribute named **no** for an identification number of the vehicle.
- ein privates Attribut mit Namen **model** vom Typ C++ Zeichenkette (**string**) für das Fahrzeugmodell./
a private C++ string attribute with name **model**.
- ein privates Attribut mit Namen **price24h** vom Typ **float** für den Tagesmietpreis des Fahrzeugs./
a private attribute with name **price24h** of data type **float** for the rental price of one day of the vehicle.
- ein öffentlicher Konstruktor mit einer ganzen Zahl, einer C++-Zeichenkette und einer Gleitpunktzahl als Parameter zur Initialisierung der drei Attribute./
a public constructor with an integer, a C++ string and a floating point number as parameters to initialise the three private attributes.
- ein virtueller Destruktor./
a virtual destructor.
- zwei öffentliche Methoden mit Namen **get_no** und **get_model** ohne Parameter, die die jeweiligen Attributwerte zurück liefern./
two public methods with names **get_no** and **get_model** without parameters returning the values of the respective attributes.
- eine öffentliche Methode mit Namen **get_price** mit einem ganzzahligen Parameter für die Anzahl der Miettage des Fahrzeugs, die den Tagesmietpreis multipliziert mit der Anzahl der Miettage als Funktionswert zurück liefert./
a public method with name **get_price** with an integer parameter for the number of rental days of the vehicle, which gets multiplied by the rental price of one day returned as function value.
- eine öffentliche abstrakte virtuelle Methode mit Namen **print** ohne Parameter und ohne Rückgabewert./
a public pure virtual method with name **print** without parameter and without return value.

Teilaufgabe Klasse `Bike`/Subtask class `Bike`

Definieren Sie eine Klasse für Fahrräder mit Namen **Bike**, die öffentlich von der Klasse **Vehicle** erbt, mit folgenden Mitgliedern:/

Define a class for bicycles with name **Bike** inheriting public from class **Vehicle** with following members:

- ein öffentlicher Konstruktor mit einer ganzen Zahl und einer C++-Zeichenkette als Parameter zur Initialisierung der Nummer und des Modells; der Tagesmietpreis soll immer 9,99 EUR betragen./
a public constructor with an integer and a C++ string as parameters to initialise the number and the model; the daily rental price shall always be 9,99 EUR.
- eine öffentliche virtuelle Methode mit Namen **print** ohne Parameter und ohne Rückgabewert, die die Nummer, einen Doppelpunkt, das Modell und danach " (**Bike**) " auf den Standard-Zeichen-Ausgabestrom schreibt (siehe Beispiel unten)/
a public virtual method with name **print** without parameter and without return type writing the number, the model and afterwards " (**Bike**) " onto the standard character output stream (see example below).

Teilaufgabe Klasse `EMotorVehicle`/Subtask class `EMotorVehicle`

Definieren Sie eine abstrakte Klasse mit Namen **EMotorVehicle**, die öffentlich von der Klasse **Vehicle** erbt, mit folgenden Mitgliedern:/

Define an abstract class with name **EMotorVehicle** inheriting public from class **Vehicle** with following members:

- ein öffentlicher Konstruktor mit einer ganzen Zahl, einer C++-Zeichenkette und einer Gleitpunktzahl als Parameter zur Initialisierung der drei Attribute./
a public constructor with an integer, a C++ string and a floating point number as parameters to initialise the three attributes.
- eine öffentliche virtuelle abstrakte Methode mit Namen `is_streetLegal` (hat Straßenverkehrszulassung) ohne Parameter und mit einem Booleschen Rückgabetyt./
a public pure virtual method with name `is_streetLegal` without parameter and a Boolean return type.
- eine öffentliche virtuelle Methode mit Namen `print` ohne Parameter und ohne Rückgabetyt, die die Nummer, einen Doppelpunkt, das Modell und dahinter, falls keine Straßenzulassung vorhanden ist, "`(not street legal)`" auf den Standard-Zeichen-Ausgabestrom schreibt (siehe Beispiel unten)./
a public virtual method with name `print` without parameter or return value writing the number, the model, and if the vehicle is not street legal "`(not street legal)`" onto the standard character output stream (see example below).

Teilaufgabe Klasse `EBike`/Subtask class `EBike`

Definieren Sie eine Klasse mit Namen `EBike`, die öffentlich von der Klasse `EMotorVehicle` erbt, mit folgenden Mitgliedern:/

Define a class with name `EBike` inheriting public from class `EMotorVehicle` with following members:

- ein öffentlicher Konstruktor mit einer ganzen Zahl, einer C++-Zeichenkette und einer Gleitpunktzahl als Parameter zur Initialisierung der drei Attribute; letzterer Parameter soll ein Defaultparameter mit Defaultwert 29.99 EUR sein./
a public constructor with an integer, a C++ string and a floating point number as parameters to initialise the three attributes; the latter parameter shall be a default parameter with default value 29.99 EUR.
- eine öffentliche virtuelle Methode mit Namen `is_streetLegal` ohne Parameter, die immer `true` zurück gibt (es werden nur E-Bikes mit Straßenzulassung vermietet)./
a public virtual method with name `is_streetLegal` without parameter always returning `true` (only street legal E-bikes are rented).
- eine öffentliche virtuelle Methode mit Namen `print` ohne Parameter und ohne Rückgabetyt, die die gleichnamige Methode der direkten Oberklasse aufruft und danach "`(EBike)`" auf den Standard-Zeichen-Ausgabestrom schreibt (siehe Beispiel unten)./
a public virtual method with name `print` without parameter and without return type calling the same name method of its direct upper class and afterwards writing "`(EBike)`" onto the standard character output stream (see example below).

Teilaufgabe Klasse `EScooter`/Subtask class `EScooter`

Definieren Sie eine Klasse mit Namen `EScooter`, die öffentlich von der Klasse `EMotorVehicle` erbt, mit folgenden Mitgliedern:/

Define a class with name `EScooter` inheriting public from class `EMotorVehicle` with following members:

- ein privates Boolesches Attribut mit Namen `streetLegal`, ob der E-Scooter eine Straßenzulassung hat./
a private Boolean attribute with name `streetLegal` whether the E-scooter is street legal.
- ein öffentlicher Konstruktor mit einer ganzen Zahl, einer C++-Zeichenkette, einer Gleitpunktzahl und einem Booleschen Wert als Parameter zur Initialisierung der vier Attribute. Die letzten beiden Parameter sollen Defaultparameter sein mit Defaultwerten 19.99 EUR und `false`./
a public constructor with an integer, a C++ string, a floating point number and a Boolean value as parameters to initialise the four attributes. The last two parameters shall be a default parameters with default values 19.99 EUR and `false`.
- eine öffentliche virtuelle Methode mit Namen `is_streetLegal` ohne Parameter, die den Wert des entsprechenden Attributs zurück liefert./
a public virtual method with name `is_streetLegal` without parameter returning the value of the respective attribute.
- eine öffentliche virtuelle Methode mit Namen `print` ohne Parameter und ohne Rückgabetyt, die die gleichnamige Methode der direkten Oberklasse aufruft und danach "`(EScooter)`" auf den Standard-Zeichen-Ausgabestrom schreibt (siehe Beispiel unten)./
a public virtual method with name `print` without parameter and without return type calling the same name method of its direct upper class and afterwards writing "`(EScooter)`" onto the standard character output stream (see example below).

Teilaufgabe Klasse `Rental`/Subtask class `Rental`

Definieren Sie eine Klasse für eine Anmietung mit Namen `Rental` mit folgenden Mitgliedern:/

Define a class for a rental with name `Rental` with following members:

- ein privates konstantes ganzzahliges Attribut mit Namen `no` für eine eindeutige Reservierungs-Nummer für die Anmietung./
a private constant integer attribute with name `no` storing a unique reservation number for the rental.
- ein privates Attribut mit Namen `from` vom obigen Typ `DayOfYear` für den Starttag der Anmietung./
a private attribute with name `from` of above type `DayOfYear` storing the starting day of a rental.
- ein privates ganzzahliges Attribut mit Namen `days` für die Anzahl der Miettage./
a private integer attribute with name `days` storing the number of rental days.
- ein privates Attribut mit Namen `customer` vom Typ C++ Zeichenkette (`string`) zur Speicherung der anmietenden Person./
a private C++ string attribute with name `customer` storing the renting person.
- eine private statische ganzzahlige Klassenvariable mit Namen `last_no` zur Vergabe einer fortlaufenden Reservierungs-Nummer, die bei jeder Erzeugung eines neuen Objekts dieser Klasse im Konstruktor automatisch inkrementiert wird und dafür verwendet werden soll, dass alle Fahrzeug-Reservierungen/Anmietungen eine verschiedene, eindeutig identifizierende Nummer haben. Diese statische Klassenvariable soll ausserhalb der Klasse mit dem Wert 0 definiert und initialisiert werden./
a private static integer class variable with name `last_no` to generate a sequence of reservation numbers, which gets incremented each time a

new object of this class is generated by the constructor and therefore can be used to automatically take care that all reservations/rentals get a unique identifying number. This class variable shall be defined and initialised outside of the class.

- ein öffentlicher Konstruktor mit einer Zeichenkette für die anmietende Person als erstem Parameter, einem zweiten Parameter vom Typ **DayOfYear** für den Tag der Anmietung und einem weiteren ganzzahligen Defaultparameter für die Anzahl der Miettage mit Defaultwert 1. Neben der Initialisierung der den Parametern entsprechenden Attribute soll das Attribut **no** mithilfe von **last_no** eine noch nicht vergebene neue eindeutige fortlaufende Nummer bekommen (beginnend mit 1 für die erste Anmietung)./
a public constructor with a first string parameter for the renting person, a second parameter of type **DayOfYear** for the starting day of the rental and an integer default parameter for the number of rental days with a default value 1. Beside the initialisation of the attributes related to the respective parameters the attribute **no** shall get a new unique sequential number using **last_no** (starting with rental number 1).
- eine öffentliche Methode mit Namen **get_days** ohne Parameter, die den Wert des entsprechenden Attributs zurück liefert./
a public method with name **get_days** without parameter returning the value of the respective attribute.
- zwei öffentliche Methoden mit Namen **get_from** und **get_until** ohne Parameter, die jeweils den Anmiettag und den Rückgabetag der Anmietung als Funktionswert vom Typ **DayOfYear** zurück liefern. (Hinweis: verwenden Sie im Rumpf den oben definierten Inkrement-Operator **++** der Klasse **DayOfYear** in einer Schleife **days**-mal.)/
two public methods with names **get_from** and **get_until** without parameters returning the start and end/return date of the rental of type **DayOfYear**. (Hint: in the body call/use above defined increment operator **++** of class **DayOfYear** in a loop **days** times.)
- eine öffentliche Methode mit Namen **print** ohne Parameter und ohne Rückgabebetyp, die wie in den Beispielen unten gezeigt den Anmiettag, die Zeichenkette "**to**", den Rückgabetag, die Zeichenkette "**, rental no**" und die Reservierungsnummer sowie "**for**" und die anmietende Person auf den Standard-Zeichen-Ausgabestrom schreibt./
a public method with name **print** without parameter and without return type writing like in the examples below the start day of the rental, string "**to**", the end day of the rental, string "**, rental no**" and the reservation number as well as "**for**" and the renting person onto the standard character output stream.

Teilaufgabe Klasse **Schedule**/Subtask class **Schedule**

Definieren Sie eine Klasse mit Namen **Schedule** für einen Reservierungsplan für ein Fahrzeug für maximal ein Jahr voraus mit folgenden Members:/

Define a class with name **Schedule** for a rental reservation schedule for a vehicle with a maximum of one year ahead with following members:

- ein privates Attribut mit Namen **vehicle** vom Typ Zeiger auf **Vehicle** für das Fahrzeug, für das dieser Plan gilt./
a private attribute with name **vehicle** of type pointer to **Vehicle** this schedule belongs to.
- ein privates Feld von 365 Zeigern der Klasse **Rental** mit Namen **year**, in dem für jeden Tag innerhalb eines Zeitraums von maximal einem Jahr (ab heute), an dem ein Fahrzeug angemietet ist, ein Zeiger auf ein entsprechendes Objekt vom Typ **Rental** gespeichert sein soll (also am 25.9. kann beispielsweise eine Anmietung für den 2.8. des Folgejahres in diesem Reservierungsplan erfolgen; das Jahr kann ignoriert werden; Anmietungen dürfen maximal 28 Tage dauern)./
a private array of 365 pointers of class **Rental** with name **year** used to store a pointer to an object of type **Rental** for every day a rental exists maximum one year ahead (from today; e.g. on September 25th a rental starting at August 2nd of the following year can be booked; the year can be ignored; rentals are not allowed longing more than 28 days).
- ein privates Attribut mit Namen **next** vom Typ Zeiger auf **Schedule** zum Aufbau einer Liste für mehrere zu vermietende Fahrzeuge./
a private attribute with name **next** of type pointer to **Schedule** to set up a list of several to rent vehicles.
- ein öffentlicher Konstruktor mit einem Zeiger vom Typ **Vehicle** als einzigem Parameter zur Initialisierung des entsprechenden Attributs. Der Zeiger **next** und alle Zeiger im Feld **year** sollen mit Nullzeigern initialisiert werden (keine Buchungen vorhanden)./
a public constructor with a single parameter of type pointer to a **Vehicle**. to initialise the respective attribute. Pointer **next** and all pointers in array **year** shall be set to null pointers (no rentals ahead).
- eine öffentliche Methode mit Namen **get_vehicle** ohne Parameter, die einen Zeiger auf das Fahrzeug als Funktionswert zurück liefern soll./
a public method with name **get_vehicle** without parameter returning a pointer to the vehicle as function value.
- eine öffentliche Methode mit Namen **get_next** ohne Parameter, die einen Zeiger auf den nächsten Plan als Funktionswert zurück liefern soll./
a public method with name **get_next** without parameter returning a pointer to the next schedule as function value.
- eine öffentliche Methode mit Namen **set_next** mit einem Zeiger vom Typ **Schedule** als Parameter, die das entsprechende Attribut setzt./
a public method with name **set_next** with a pointer of type **Schedule** as parameter assigning the respective attribute.
- eine öffentliche Methode mit Namen **isFree** mit einem Datum vom Typ **DayOfYear** als erstem Parameter, ab dem die Anmietung geplant ist, einer Anzahl von Tagen als zweitem Parameter, wie lange die Anmietung geplant ist, und mit einem Booleschen Rückgabewert. Im Rumpf soll geprüft werden, ob dieser Zeitraum noch komplett frei ist (Rückgabewert **true**) oder nicht (Rückgabewert **false**)./
a public method with name **isFree** with a date of type **DayOfYear** as first parameter as start day of a planned rental, an integer number of days as second parameter, how long the rental is planned, and a Boolean return value. In the body it shall be checked whether the whole time period will be free (return value **true**) or not (return value **false**).
- eine öffentliche Methode mit Namen **book** mit einer Zeichenkette für die anmietende Person als erstem Parameter, mit einem Datum vom Typ **DayOfYear** als zweitem Parameter, ab dem die Anmietung erfolgt, einer Anzahl von Tagen als drittem Parameter, wie lange die Anmietung erfolgt, und mit einer Gleitpunktzahl als Rückgabewert. Im Rumpf soll ein neues Objekt vom Typ **Rental** auf dem Heap erzeugt werden und dessen Adresse in einer Schleife für jeden Reservierungstag im Feld **year** gespeichert werden (der Index im Feld für den ersten Anmiettag kann über eine entsprechende Nachricht **get_dayOfYear** an das Datumsobjekt berechnet werden - vergessen Sie nicht 1 zu subtrahieren). Zurück gegeben werden soll der Preis für diese Anmietung ermittelt über eine geeignete Nachricht **get_price** an das Fahrzeug./
a public method with name **book** with a string for the renting person as first parameter, a date of type **DayOfYear** as second parameter for the

start day of the rental, an integer number of days as third parameters, how long the rental is planned, and a floating point return value. In the body a new object of type **Rental** on the heap shall be generated and its address being stored in array **year** for each rental day in a loop (the index into the array for the start day of the rental can be calculated by sending a message **get_dayOfYear()** to the date object - don't forget to subtract 1). Return value shall be the price for this rental determined by a message **get_price** sent to the vehicle.

- eine öffentliche Methode mit Namen **print** mit einem Datum vom Typ **DayOfYear** als Parameter ohne Rückgabetyt, die eine Nachricht **print** an das Fahrzeug schickt und danach - falls vorhanden, also kein Nullzeiger - eine Nachricht **print** an das Reservierungsobjekt für diesen Tag im entsprechenden Feldelement sendet (siehe Beispiele unten)/
a public method with name **print** with a date of type **DayOfYear** as parameter without return type, sending a message **print** to the vehicle and afterwards a message **print** to the reservation object - if it exists, i.e. it is not a null pointer - for this day in the respective array element (see examples below).
- eine öffentliche Methode mit Namen **print** ohne Parameter und ohne Rückgabetyt, die wie im Beispiel nach einer Überschrift "**SCHEDULE**" eine Nachricht **print** an das Fahrzeug schickt und danach alle für das Fahrzeug im Feld **year** gespeicherten Anmietungen zusammen mit deren Preisen ausgibt - geben Sie für Anmietungen über mehrere Tage diese jeweils nur einmal aus, also nicht für jeden weiteren Anmietungstag erneut./
a public method with name **print** without parameter and without return type, writing like in the example below a title "**SCHEDULE**", then sending a message **print** to the vehicle and afterwards printing all rentals for the vehicle stored in array **year** together with their prices- each rental for several days shall be written only once, not again und again for each rental day.

Teilaufgabe Klasse *Agency*/Subtask class *Agency*

Definieren Sie eine Klasse für die Vermietungsagentur mit Namen **Agency** mit folgenden Mitgliedern:/

Define a class for the renting agency with name **Agency** with following members:

- ein privates Attribut **profitPercent** vom Typ **float** für den Prozentsatz Gewinn bei jeder Anmietung für die Agentur./
a private attribute **profitPercent** of type **float** for the profit percentage of the agency for each rental.
- ein privates Attribut **profit** vom Typ **float** für den aufsummierten Gewinn der Agentur./
a private attribute **profit** of type **float** for the summed up profit of the agency.
- zwei private Zeigerattribute mit Namen **head** und **last** vom Typ **Schedule** als Zeiger auf das erste und das letzte Element einer Liste von Reservierungsplänen für alle Fahrzeuge der Agentur./
two private pointer attributes with name **head** and **last** of type **Schedule** as pointers to the first and the last element of a list of schedules for all the vehicles of the agency.
- ein öffentlicher Standard-Konstruktor, der den Prozentsatz für den Gewinn auf 20% initialisiert, den Gewinn auf 0.00 EUR und die beiden Zeiger auf Nullzeiger./
a public standard constructor initialising the percentage of the profit to 20%, the profit to 0.00 EUR and the two pointers to null pointers.
- eine öffentliche Methode mit Namen **get_profit** ohne Parameter, die den Wert des entsprechenden Attributs als Funktionswert zurück liefert./
a public method with name **get_profit** without parameter returning the value of the respective attribute.
- eine öffentliche Methode mit Namen **set_profitPercentage** mit einem **float** als Parameter ohne Rückgabetyt, die den Wert des Parameters dem entsprechenden Attribut zuweist./
a public method with name **set_profitPercentage** with a **float** parameter without return type assigning the value of the parameter to the respective attribute.
- eine öffentliche Methode mit Namen **add** mit einem Zeiger vom Typ **Vehicle** als Parameter ohne Rückgabetyt, die ein neues Objekt vom Typ **Schedule** für das Fahrzeug auf dem Heap erzeugt und am Ende der Liste anfügt./
a public method with name **add** with a pointer of type **Vehicle** as parameter without return type allocating a new object of type **Schedule** on heap for this vehicle and appending it at the end of the list.
- eine geschützte Methode mit Namen **searchFor** mit einem ganzzahligen Parameter und einem Zeiger vom Typ **Schedule** als Rückgabetyt, die in der Liste nach dem Reservierungsplan für das Fahrzeug mit der im Parameter übergebenen Nummer sucht und diesen zurück gibt./
a protected method with name **searchFor** with an integer parameter and a pointer of type **Schedule** as return type searching in the list of schedules for the vehicle with the number given by the parameter and returning it.
- eine öffentliche Methode mit Namen **isFree** mit einem ganzzahligen ersten Parameter für eine Fahrzeugnummer, einem Datum vom Typ **DayOfYear** als zweitem Parameter, ab dem die Anmietung geplant ist, einer Anzahl von Tagen als drittem Parameter, wie lange die Anmietung geplant ist, und mit einem Booleschen Rückgabetyt. Die Methode soll überprüfen, ob das Fahrzeug im gewünschten Zeitraum frei ist oder nicht. Senden Sie hierzu an das **Schedule**-Objekt, das für die Fahrzeugnummer über die Suchfunktion im vorherigen Aufgabenpunkt gefunden wird, eine Nachricht **isFree** und geben dessen Rückgabewert zurück./
a public method with name **isFree** with a first integer parameter for a vehicle number, a date of type **DayOfYear** as second parameter as start day of a planned rental, an integer number of days as third parameter, how long the rental is planned, and a Boolean return type. The method shall check whether the vehicle will be free at the desired time period or not. Therefore send to the object of type **Schedule**, which is returned by the search function in the previous item, a message **isFree** and return its value.
- eine öffentliche Methode mit Namen **book** mit einem ganzzahligen ersten Parameter für eine Fahrzeugnummer, einer Zeichenkette für eine Kundin/einen Kunden als zweitem Parameter, einem Datum vom Typ **DayOfYear** als drittem Parameter, ab dem die Anmietung geplant ist, einer Anzahl von Tagen als viertem Parameter, wie lange die Anmietung geplant ist, und einem **float** als Rückgabetyt. Die Methode soll das gesuchte Fahrzeug im gewünschten Zeitraum für die Kundin/den Kunden buchen. Senden Sie hierzu an das **Schedule**-Objekt, das für die Fahrzeugnummer über die Suchfunktion im vorherigen Aufgabenpunkt gefunden wird, eine Nachricht **book**. Berechnen Sie vom zurück gegebenen Preis den Profit über den gespeicherten Prozentsatz und addieren diesen zu **profit**. Geben Sie danach den Preis zurück./

a public method with name **book** with a first integer parameter for a vehicle number, a string for the customer as second parameter, a date of type **DayOfYear** as third parameter as start day of a planned rental, an integer number of days as forth parameter, how long the rental is planned, and a Boolean return type. The method shall book the vehicle for the customer. Therefore send to the object of type **Schedule**, which is returned by the search function in the previous item, a message **book**. Calculate the profit by the profit percentage and the returned price value and add it to **profit**. Afterwards return the price.

- eine öffentliche Methode mit Namen **chooseVehicle** ohne Parameter und einem ganzzahligen Rückgabety. Im Rumpf soll die Liste der Fahrzeuge aller Reservierungspläne auf den Standard-Zeichen-Ausgabestrom geschrieben werden, eine Fahrzeugnummer von der Tastatur eingelesen und diese zurück gegeben werden (siehe Beispiele unten). Diese Funktionalität können Sie später in der Funktion **main** im Menüpunkt C nutzen./

a public method with name **chooseVehicle** without parameter and an integer return type. In the body a list of the vehicles of all schedules shall be written onto standard character output stream, a vehicle number read from input and returned (see examples below). This functionality you can use later in function **main** in menu entry C.

- eine öffentliche Methode mit Namen **print** mit einem Datum vom Typ **DayOfYear** als Parameter ohne Rückgabety. Diese soll die Reservierungen aller Fahrzeuge in der Liste an diesem Datum ausgeben (siehe Beispiele unten)./

a public method with name **print** with a date of type **DayOfYear** as parameter without return type. It shall output all reservations of all schedules at this date (see examples below).
- eine öffentliche Methode mit Namen **print** ohne Parameter und ohne Rückgabety. Diese soll alle Reservierungen aller Fahrzeuge in der Liste ausgeben sowie den Wert von **profit** (siehe Beispiele unten)./

a public method with name **print** without a parameter and without return type. It shall output all reservations of all schedules in the list as well as the value of **profit** (see examples below).

Teilaufgabe **main/Subtask main**

Definieren Sie ein Objekt der Klasse **Agency** und programmieren ein kleines Menü im Rahmen einer Schleife mit den im Beispiel gezeigten Funktionalitäten A bis K für dieses Objekt wie unten zu sehen. Entwickeln Sie Ihre Klassen und die Funktionalitäten der Menüpunkte schrittweise. Beginnen Sie beispielsweise mit der Klasse **DayOfYear**, definieren zwei Variable **today** und **tomorrow** und programmieren erste Funktionalitäten B, D und E (nur Ausgabe), danach vielleicht G, H und I mit den dazugehörigen Klassen, anschließend evtl. C und F, usw./

Define an object of class **Agency** and program a small menu inside a loop with in the example shown functionalities A to K for this object as given below. Define your classes and the functionalities of the menu entries step by step. Start for example with class **DayOfYear**, define two variables **today** and **tomorrow** and program first functionalities B, D and E (only output), then maybe G, H and I with the related classes, following e.g. C and F, and so on.

optional für Experten/Zusatzpunkte/optional for experts/additional points

Implementieren Sie unter L eine Simulation von Reservierungen über Zufallszahlen für die Fahrzeugnummer, das Datum der Reservierung zwischen Tag 1 und 365, die Anzahl an Tagen zwischen 1 und 7 und einer Zeichenkette "**customer**" plus einer fortlaufend generierten Nummer. Eine kleine Beispieldatei zur Erzeugung von Zufallszahlen können Sie im Kurs herunter laden./

Implement in L a simulation of reservations using random numbers for the vehicle number, the day/date of renting inbetween day 1 and 365, the number of rental days inbetween 1 and 7 and a string "**customer**" with a sequential number generated. A small example file to generate random numbers can be downloaded in the course.

Beispiel Programmlauf/Example Program Run

SIMPLIFIED SIMULATION OF A RENTAL AGENCY

=====

MENUE

A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-01
E print rental of tomorrow 2021-01-02
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: b
input date of today: 2021-01-08

MENUE

A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-08
E print rental of tomorrow 2021-01-09
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: d
SCHEDULE FOR 2021-01-08

MENUE

A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-08
E print rental of tomorrow 2021-01-09
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: e
SCHEDULE FOR 2021-01-09

MENUE

A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-08
E print rental of tomorrow 2021-01-09
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: f
profit: 0.00 EUR

MENUE

A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-08
E print rental of tomorrow 2021-01-09
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters


```
L new rental simulation
your choice: g
agency profit: 0.00 EUR
```

```
MENUE
A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-08
E print rental of tomorrow 2021-01-09
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: h
agency profit percent: 35
```

```
MENUE
A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-08
E print rental of tomorrow 2021-01-09
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: i
how many Bikes in this simulation? 3
```

```
MENUE
A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-08
E print rental of tomorrow 2021-01-09
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: f
SCHEDULE FOR 1: City1 (Bike)
SCHEDULE FOR 2: City2 (Bike)
SCHEDULE FOR 3: City3 (Bike)
profit: 0.00 EUR
```

```
MENUE
A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-08
E print rental of tomorrow 2021-01-09
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: j
how many EBikes in this simulation? 4
```

```
MENUE
A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-08
E print rental of tomorrow 2021-01-09
F print all rentals
G print agency profit
```



```
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: f
SCHEDULE FOR 1: City1 (Bike)
SCHEDULE FOR 2: City2 (Bike)
SCHEDULE FOR 3: City3 (Bike)
SCHEDULE FOR 4: Trekky1 (EBike)
SCHEDULE FOR 5: Trekky2 (EBike)
SCHEDULE FOR 6: Trekky3 (EBike)
SCHEDULE FOR 7: Trekky4 (EBike)
profit: 0.00 EUR
```

```
MENUE
A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-08
E print rental of tomorrow 2021-01-09
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: i
how many Bikes in this simulation? 1
```

```
MENUE
A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-08
E print rental of tomorrow 2021-01-09
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: f
SCHEDULE FOR 1: City1 (Bike)
SCHEDULE FOR 2: City2 (Bike)
SCHEDULE FOR 3: City3 (Bike)
SCHEDULE FOR 4: Trekky1 (EBike)
SCHEDULE FOR 5: Trekky2 (EBike)
SCHEDULE FOR 6: Trekky3 (EBike)
SCHEDULE FOR 7: Trekky4 (EBike)
SCHEDULE FOR 8: City4 (Bike)
profit: 0.00 EUR
```

```
MENUE
A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-08
E print rental of tomorrow 2021-01-09
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: k
how many EScooters in this simulation? 3
```

```
MENUE
A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-08
E print rental of tomorrow 2021-01-09
F print all rentals
G print agency profit
```

```
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: f
SCHEDULE FOR 1: City1 (Bike)
SCHEDULE FOR 2: City2 (Bike)
SCHEDULE FOR 3: City3 (Bike)
SCHEDULE FOR 4: Trekky1 (EBike)
SCHEDULE FOR 5: Trekky2 (EBike)
SCHEDULE FOR 6: Trekky3 (EBike)
SCHEDULE FOR 7: Trekky4 (EBike)
SCHEDULE FOR 8: City4 (Bike)
SCHEDULE FOR 9: Scooty1 (not street legal) (EScooter)
SCHEDULE FOR 10: Scooty2 (not street legal) (EScooter)
SCHEDULE FOR 11: Scooty3 (not street legal) (EScooter)
profit: 0.00 EUR
```

```
MENUE
A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-08
E print rental of tomorrow 2021-01-09
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: c
1: City1 (Bike)
2: City2 (Bike)
3: City3 (Bike)
4: Trekky1 (EBike)
5: Trekky2 (EBike)
6: Trekky3 (EBike)
7: Trekky4 (EBike)
8: City4 (Bike)
9: Scooty1 (not street legal) (EScooter)
10: Scooty2 (not street legal) (EScooter)
11: Scooty3 (not street legal) (EScooter)
choose vehicle no: 3
day of rental: 2021-02-12
number of days: 3
input data vehicle renter name:
Dilbert
booked, price for this rental: 29.97 EUR
```

```
MENUE
A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-08
E print rental of tomorrow 2021-01-09
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: d
SCHEDULE FOR 2021-01-08
1: City1 (Bike)
2: City2 (Bike)
3: City3 (Bike)
4: Trekky1 (EBike)
5: Trekky2 (EBike)
6: Trekky3 (EBike)
7: Trekky4 (EBike)
8: City4 (Bike)
9: Scooty1 (not street legal) (EScooter)
10: Scooty2 (not street legal) (EScooter)
11: Scooty3 (not street legal) (EScooter)
```

```
MENUE
```

```
A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-08
E print rental of tomorrow 2021-01-09
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: f
SCHEDULE FOR 1: City1 (Bike)
SCHEDULE FOR 2: City2 (Bike)
SCHEDULE FOR 3: City3 (Bike)
2021-02-12 to 2021-02-15, rental no. 1 for Dilbert , total: 29.97 EUR
SCHEDULE FOR 4: Trekky1 (EBike)
SCHEDULE FOR 5: Trekky2 (EBike)
SCHEDULE FOR 6: Trekky3 (EBike)
SCHEDULE FOR 7: Trekky4 (EBike)
SCHEDULE FOR 8: City4 (Bike)
SCHEDULE FOR 9: Scooty1 (not street legal) (EScooter)
SCHEDULE FOR 10: Scooty2 (not street legal) (EScooter)
SCHEDULE FOR 11: Scooty3 (not street legal) (EScooter)
profit: 10.49 EUR
```

MENUE

```
A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-08
E print rental of tomorrow 2021-01-09
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: c
1: City1 (Bike)
2: City2 (Bike)
3: City3 (Bike)
4: Trekky1 (EBike)
5: Trekky2 (EBike)
6: Trekky3 (EBike)
7: Trekky4 (EBike)
8: City4 (Bike)
9: Scooty1 (not street legal) (EScooter)
10: Scooty2 (not street legal) (EScooter)
11: Scooty3 (not street legal) (EScooter)
choose vehicle no: 5
day of rental: 2021-01-22
number of days: 1
input data vehicle renter name:
Wally
booked, price for this rental: 29.99 EUR
```

MENUE

```
A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-08
E print rental of tomorrow 2021-01-09
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: f
SCHEDULE FOR 1: City1 (Bike)
SCHEDULE FOR 2: City2 (Bike)
SCHEDULE FOR 3: City3 (Bike)
2021-02-12 to 2021-02-15, rental no. 1 for Dilbert , total: 29.97 EUR
SCHEDULE FOR 4: Trekky1 (EBike)
SCHEDULE FOR 5: Trekky2 (EBike)
```

```
2021-01-22 to 2021-01-23, rental no. 2 for Wally , total: 29.99 EUR
SCHEDULE FOR 6: Trekky3 (EBike)
SCHEDULE FOR 7: Trekky4 (EBike)
SCHEDULE FOR 8: City4 (Bike)
SCHEDULE FOR 9: Scooty1 (not street legal) (EScooter)
SCHEDULE FOR 10: Scooty2 (not street legal) (EScooter)
SCHEDULE FOR 11: Scooty3 (not street legal) (EScooter)
profit: 20.99 EUR
```

```
MENUE
A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-08
E print rental of tomorrow 2021-01-09
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: c
1: City1 (Bike)
2: City2 (Bike)
3: City3 (Bike)
4: Trekky1 (EBike)
5: Trekky2 (EBike)
6: Trekky3 (EBike)
7: Trekky4 (EBike)
8: City4 (Bike)
9: Scooty1 (not street legal) (EScooter)
10: Scooty2 (not street legal) (EScooter)
11: Scooty3 (not street legal) (EScooter)
choose vehicle no: 3
day of rental: 2021-02-14
number of days: 2
sorry vehicle already booked
```

```
MENUE
A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-08
E print rental of tomorrow 2021-01-09
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: l
how many reservations to simulate? 10
rental vehicle 5 from 2021-09-19 for 6 days
rental vehicle 6 from 2021-04-07 for 2 days
rental vehicle 4 from 2021-05-24 for 2 days
rental vehicle 3 from 2021-10-27 for 3 days
rental vehicle 11 from 2021-12-29 for 5 days
rental vehicle 2 from 2021-05-19 for 3 days
rental vehicle 9 from 2021-01-09 for 6 days
rental vehicle 6 from 2021-03-11 for 1 days
rental vehicle 8 from 2021-09-29 for 7 days
rental vehicle 2 from 2021-01-02 for 3 days
```

```
MENUE
A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-08
E print rental of tomorrow 2021-01-09
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: f
```


SCHEDULE FOR 1: City1 (Bike)
SCHEDULE FOR 2: City2 (Bike)
2021-01-02 to 2021-01-05, rental no. 12 for customer10 , total: 29.97 EUR
2021-05-19 to 2021-05-22, rental no. 8 for customer6 , total: 29.97 EUR
SCHEDULE FOR 3: City3 (Bike)
2021-02-12 to 2021-02-15, rental no. 1 for Dilbert , total: 29.97 EUR
2021-10-27 to 2021-10-30, rental no. 6 for customer4 , total: 29.97 EUR
SCHEDULE FOR 4: Trekky1 (EBike)
2021-05-24 to 2021-05-26, rental no. 5 for customer3 , total: 59.98 EUR
SCHEDULE FOR 5: Trekky2 (EBike)
2021-01-22 to 2021-01-23, rental no. 2 for Wally , total: 29.99 EUR
2021-09-19 to 2021-09-25, rental no. 3 for customer1 , total: 179.94 EUR
SCHEDULE FOR 6: Trekky3 (EBike)
2021-03-11 to 2021-03-12, rental no. 10 for customer8 , total: 29.99 EUR
2021-04-07 to 2021-04-09, rental no. 4 for customer2 , total: 59.98 EUR
SCHEDULE FOR 7: Trekky4 (EBike)
SCHEDULE FOR 8: City4 (Bike)
2021-09-29 to 2021-10-06, rental no. 11 for customer9 , total: 69.93 EUR
SCHEDULE FOR 9: Scooty1 (not street legal) (EScooter)
2021-01-09 to 2021-01-15, rental no. 9 for customer7 , total: 89.94 EUR
SCHEDULE FOR 10: Scooty2 (not street legal) (EScooter)
SCHEDULE FOR 11: Scooty3 (not street legal) (EScooter)
2021-12-29 to 2022-01-03, rental no. 7 for customer5 , total: 74.95 EUR
profit: 250.10 EUR

MENUE

A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-08
E print rental of tomorrow 2021-01-09
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: 1
how many reservations to simulate? 50
rental vehicle 10 from 2021-07-27 for 3 days
rental vehicle 3 from 2021-07-01 for 2 days
rental vehicle 3 from 2021-03-30 for 7 days
rental vehicle 9 from 2021-02-05 for 3 days
rental vehicle 3 from 2021-07-14 for 6 days
rental vehicle 5 from 2021-07-15 for 2 days
rental vehicle 7 from 2021-09-18 for 1 days
rental vehicle 3 from 2021-08-16 for 6 days
rental vehicle 6 from 2021-11-11 for 2 days
rental vehicle 2 from 2021-12-11 for 5 days
rental vehicle 11 from 2021-04-06 for 3 days
rental vehicle 11 from 2021-04-12 for 2 days
rental vehicle 7 from 2021-08-21 for 5 days
rental vehicle 9 from 2021-07-26 for 6 days
rental vehicle 4 from 2021-07-24 for 4 days
rental vehicle 10 from 2021-07-07 for 3 days
rental vehicle 6 from 2021-04-15 for 6 days
rental vehicle 8 from 2021-06-02 for 2 days
rental vehicle 9 from 2021-05-20 for 3 days
rental vehicle 5 from 2021-02-28 for 7 days
rental vehicle 8 from 2021-08-17 for 7 days
rental vehicle 8 from 2021-09-09 for 5 days
rental vehicle 7 from 2021-03-07 for 6 days
rental vehicle 6 from 2021-11-07 for 6 days sorry vehicle already booked
rental vehicle 5 from 2021-06-25 for 4 days
rental vehicle 6 from 2021-04-17 for 2 days sorry vehicle already booked
rental vehicle 2 from 2021-03-16 for 7 days
rental vehicle 6 from 2021-03-18 for 2 days
rental vehicle 5 from 2021-12-17 for 7 days
rental vehicle 1 from 2021-03-04 for 2 days
rental vehicle 7 from 2021-08-18 for 2 days
rental vehicle 5 from 2021-09-29 for 7 days
rental vehicle 11 from 2021-09-16 for 1 days
rental vehicle 11 from 2021-02-04 for 6 days
rental vehicle 10 from 2021-12-12 for 5 days
rental vehicle 5 from 2021-03-05 for 7 days sorry vehicle already booked
rental vehicle 7 from 2021-07-13 for 4 days
rental vehicle 9 from 2021-04-19 for 6 days
rental vehicle 7 from 2021-11-06 for 3 days

```
rental vehicle 2 from 2021-09-25 for 1 days
rental vehicle 5 from 2021-04-10 for 7 days
rental vehicle 10 from 2021-01-26 for 5 days
rental vehicle 4 from 2021-05-05 for 4 days
rental vehicle 5 from 2021-05-11 for 6 days
rental vehicle 9 from 2021-10-19 for 2 days
rental vehicle 4 from 2021-09-12 for 6 days
rental vehicle 1 from 2021-08-13 for 4 days
rental vehicle 6 from 2021-09-20 for 6 days
rental vehicle 3 from 2021-12-11 for 3 days
rental vehicle 6 from 2021-12-29 for 2 days
```

MENUE

```
A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-08
E print rental of tomorrow 2021-01-09
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
```

your choice: f

SCHEDULE FOR 1: City1 (Bike)

```
2021-03-04 to 2021-03-06, rental no. 40 for customer38 , total: 19.98 EUR
2021-08-13 to 2021-08-17, rental no. 56 for customer54 , total: 39.96 EUR
```

SCHEDULE FOR 2: City2 (Bike)

```
2021-01-02 to 2021-01-05, rental no. 12 for customer10 , total: 29.97 EUR
2021-03-16 to 2021-03-23, rental no. 37 for customer35 , total: 69.93 EUR
2021-05-19 to 2021-05-22, rental no. 8 for customer6 , total: 29.97 EUR
2021-09-25 to 2021-09-26, rental no. 49 for customer47 , total: 9.99 EUR
2021-12-11 to 2021-12-16, rental no. 22 for customer20 , total: 49.95 EUR
```

SCHEDULE FOR 3: City3 (Bike)

```
2021-02-12 to 2021-02-15, rental no. 1 for Dilbert , total: 29.97 EUR
2021-03-30 to 2021-04-06, rental no. 15 for customer13 , total: 69.93 EUR
2021-07-01 to 2021-07-03, rental no. 14 for customer12 , total: 19.98 EUR
2021-07-14 to 2021-07-20, rental no. 17 for customer15 , total: 59.94 EUR
2021-08-16 to 2021-08-22, rental no. 20 for customer18 , total: 59.94 EUR
2021-10-27 to 2021-10-30, rental no. 6 for customer4 , total: 29.97 EUR
2021-12-11 to 2021-12-14, rental no. 58 for customer56 , total: 29.97 EUR
```

SCHEDULE FOR 4: Trekky1 (EBike)

```
2021-05-05 to 2021-05-09, rental no. 52 for customer50 , total: 119.96 EUR
2021-05-24 to 2021-05-26, rental no. 5 for customer3 , total: 59.98 EUR
2021-07-24 to 2021-07-28, rental no. 27 for customer25 , total: 119.96 EUR
2021-09-12 to 2021-09-18, rental no. 55 for customer53 , total: 179.94 EUR
```

SCHEDULE FOR 5: Trekky2 (EBike)

```
2021-01-22 to 2021-01-23, rental no. 2 for Wally , total: 29.99 EUR
2021-02-28 to 2021-03-07, rental no. 32 for customer30 , total: 209.93 EUR
2021-04-10 to 2021-04-17, rental no. 50 for customer48 , total: 209.93 EUR
2021-05-11 to 2021-05-17, rental no. 53 for customer51 , total: 179.94 EUR
2021-06-25 to 2021-06-29, rental no. 36 for customer34 , total: 119.96 EUR
2021-07-15 to 2021-07-17, rental no. 18 for customer16 , total: 59.98 EUR
2021-09-19 to 2021-09-25, rental no. 3 for customer1 , total: 179.94 EUR
2021-09-29 to 2021-10-06, rental no. 42 for customer40 , total: 209.93 EUR
2021-12-17 to 2021-12-24, rental no. 39 for customer37 , total: 209.93 EUR
```

SCHEDULE FOR 6: Trekky3 (EBike)

```
2021-03-11 to 2021-03-12, rental no. 10 for customer8 , total: 29.99 EUR
2021-03-18 to 2021-03-20, rental no. 38 for customer36 , total: 59.98 EUR
2021-04-07 to 2021-04-09, rental no. 4 for customer2 , total: 59.98 EUR
2021-04-15 to 2021-04-21, rental no. 29 for customer27 , total: 179.94 EUR
2021-09-20 to 2021-09-26, rental no. 57 for customer55 , total: 179.94 EUR
2021-11-11 to 2021-11-13, rental no. 21 for customer19 , total: 59.98 EUR
2021-12-29 to 2021-12-31, rental no. 59 for customer57 , total: 59.98 EUR
```

SCHEDULE FOR 7: Trekky4 (EBike)

```
2021-03-07 to 2021-03-13, rental no. 35 for customer33 , total: 179.94 EUR
2021-07-13 to 2021-07-17, rental no. 46 for customer44 , total: 119.96 EUR
2021-08-18 to 2021-08-20, rental no. 41 for customer39 , total: 59.98 EUR
2021-08-21 to 2021-08-26, rental no. 25 for customer23 , total: 149.95 EUR
2021-09-18 to 2021-09-19, rental no. 19 for customer17 , total: 29.99 EUR
2021-11-06 to 2021-11-09, rental no. 48 for customer46 , total: 89.97 EUR
```

SCHEDULE FOR 8: City4 (Bike)

```
2021-06-02 to 2021-06-04, rental no. 30 for customer28 , total: 19.98 EUR
2021-08-17 to 2021-08-24, rental no. 33 for customer31 , total: 69.93 EUR
2021-09-09 to 2021-09-14, rental no. 34 for customer32 , total: 49.95 EUR
2021-09-29 to 2021-10-06, rental no. 11 for customer9 , total: 69.93 EUR
```

SCHEDULE FOR 9: Scooty1 (not street legal) (EScooter)

2021-01-09 to 2021-01-15, rental no. 9 for customer7 , total: 89.94 EUR
2021-02-05 to 2021-02-08, rental no. 16 for customer14 , total: 44.97 EUR
2021-04-19 to 2021-04-25, rental no. 47 for customer45 , total: 89.94 EUR
2021-05-20 to 2021-05-23, rental no. 31 for customer29 , total: 44.97 EUR
2021-07-26 to 2021-08-01, rental no. 26 for customer24 , total: 89.94 EUR
2021-10-19 to 2021-10-21, rental no. 54 for customer52 , total: 29.98 EUR
SCHEDULE FOR 10: Scooty2 (not street legal) (EScooter)
2021-01-26 to 2021-01-31, rental no. 51 for customer49 , total: 74.95 EUR
2021-07-07 to 2021-07-10, rental no. 28 for customer26 , total: 44.97 EUR
2021-07-27 to 2021-07-30, rental no. 13 for customer11 , total: 44.97 EUR
2021-12-12 to 2021-12-17, rental no. 45 for customer43 , total: 74.95 EUR
SCHEDULE FOR 11: Scooty3 (not street legal) (EScooter)
2021-12-29 to 2022-01-03, rental no. 7 for customer5 , total: 74.95 EUR
2021-02-04 to 2021-02-10, rental no. 44 for customer42 , total: 89.94 EUR
2021-04-06 to 2021-04-09, rental no. 23 for customer21 , total: 44.97 EUR
2021-04-12 to 2021-04-14, rental no. 24 for customer22 , total: 29.98 EUR
2021-09-16 to 2021-09-17, rental no. 43 for customer41 , total: 14.99 EUR
2021-12-29 to 2022-01-03, rental no. 7 for customer5 , total: 74.95 EUR
profit: 1677.41 EUR

MENUE

A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-08
E print rental of tomorrow 2021-01-09
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: b
input date of today: 2021-01-27

MENUE

A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-27
E print rental of tomorrow 2021-01-28
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: d
SCHEDULE FOR 2021-01-27
1: City1 (Bike)
2: City2 (Bike)
3: City3 (Bike)
4: Trekky1 (EBike)
5: Trekky2 (EBike)
6: Trekky3 (EBike)
7: Trekky4 (EBike)
8: City4 (Bike)
9: Scooty1 (not street legal) (EScooter)
10: Scooty2 (not street legal) (EScooter)
2021-01-26 to 2021-01-31, rental no. 51 for customer49 11: Scooty3 (not street legal) (EScooter)

MENUE

A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-27
E print rental of tomorrow 2021-01-28
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: e
SCHEDULE FOR 2021-01-28
1: City1 (Bike)

```
2: City2 (Bike)
3: City3 (Bike)
4: Trekky1 (EBike)
5: Trekky2 (EBike)
6: Trekky3 (EBike)
7: Trekky4 (EBike)
8: City4 (Bike)
9: Scooty1 (not street legal) (EScooter)
10: Scooty2 (not street legal) (EScooter)
2021-01-26 to 2021-01-31, rental no. 51 for customer49 11: Scooty3 (not street legal) (EScooter)
```

MENUE

```
A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-27
E print rental of tomorrow 2021-01-28
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: 1
how many reservations to simulate? 200
rental vehicle 8 from 2021-04-24 for 2 days
rental vehicle 3 from 2021-07-21 for 4 days
rental vehicle 8 from 2021-03-05 for 6 days
rental vehicle 8 from 2021-08-22 for 3 days sorry vehicle already booked
rental vehicle 9 from 2021-09-20 for 7 days
rental vehicle 7 from 2021-05-24 for 5 days
rental vehicle 8 from 2021-11-01 for 7 days
rental vehicle 9 from 2021-08-22 for 7 days
rental vehicle 2 from 2021-02-03 for 3 days
rental vehicle 4 from 2021-10-12 for 2 days
rental vehicle 1 from 2021-08-11 for 4 days sorry vehicle already booked
rental vehicle 11 from 2021-03-19 for 6 days
rental vehicle 2 from 2021-04-06 for 5 days
rental vehicle 4 from 2021-10-08 for 6 days sorry vehicle already booked
rental vehicle 10 from 2021-05-23 for 7 days
rental vehicle 11 from 2021-06-21 for 5 days
rental vehicle 1 from 2021-11-28 for 3 days
rental vehicle 7 from 2021-03-17 for 4 days
rental vehicle 9 from 2021-06-03 for 4 days
rental vehicle 8 from 2021-08-21 for 3 days sorry vehicle already booked
rental vehicle 1 from 2021-05-18 for 4 days
rental vehicle 7 from 2021-08-24 for 6 days sorry vehicle already booked
rental vehicle 9 from 2021-07-30 for 3 days sorry vehicle already booked
rental vehicle 9 from 2021-08-27 for 3 days sorry vehicle already booked
rental vehicle 1 from 2021-12-27 for 1 days
rental vehicle 3 from 2021-10-04 for 5 days
rental vehicle 2 from 2021-08-22 for 3 days
rental vehicle 1 from 2021-11-29 for 3 days sorry vehicle already booked
rental vehicle 1 from 2021-08-20 for 3 days
rental vehicle 11 from 2021-01-19 for 6 days
rental vehicle 11 from 2021-11-14 for 5 days
rental vehicle 7 from 2021-02-07 for 7 days
rental vehicle 10 from 2021-05-09 for 4 days
rental vehicle 9 from 2021-03-09 for 2 days
rental vehicle 5 from 2021-05-29 for 3 days
rental vehicle 5 from 2021-12-20 for 2 days sorry vehicle already booked
rental vehicle 3 from 2021-06-13 for 2 days
rental vehicle 6 from 2021-04-28 for 4 days
rental vehicle 2 from 2021-11-29 for 2 days
rental vehicle 1 from 2021-04-06 for 5 days
rental vehicle 10 from 2021-12-02 for 5 days
rental vehicle 4 from 2021-04-28 for 7 days sorry vehicle already booked
rental vehicle 6 from 2021-02-09 for 3 days
rental vehicle 4 from 2021-10-18 for 7 days
rental vehicle 2 from 2021-05-05 for 3 days
rental vehicle 5 from 2021-05-12 for 3 days sorry vehicle already booked
rental vehicle 11 from 2021-01-18 for 4 days sorry vehicle already booked
rental vehicle 10 from 2021-09-11 for 2 days
rental vehicle 3 from 2021-06-05 for 4 days
rental vehicle 5 from 2021-01-14 for 5 days
rental vehicle 8 from 2021-02-04 for 2 days
rental vehicle 2 from 2021-10-30 for 7 days
rental vehicle 2 from 2021-04-05 for 4 days sorry vehicle already booked
```


rental vehicle 7 from 2021-10-28 for 4 days
rental vehicle 2 from 2021-04-18 for 3 days
rental vehicle 9 from 2021-06-12 for 2 days
rental vehicle 10 from 2021-04-28 for 5 days
rental vehicle 2 from 2021-11-01 for 7 days sorry vehicle already booked
rental vehicle 9 from 2021-05-13 for 4 days
rental vehicle 4 from 2021-12-01 for 7 days
rental vehicle 9 from 2021-03-08 for 6 days sorry vehicle already booked
rental vehicle 9 from 2021-01-06 for 6 days sorry vehicle already booked
rental vehicle 10 from 2021-11-23 for 7 days
rental vehicle 8 from 2021-01-19 for 7 days
rental vehicle 2 from 2021-04-29 for 6 days sorry vehicle already booked
rental vehicle 4 from 2021-09-08 for 1 days
rental vehicle 7 from 2021-12-12 for 4 days
rental vehicle 8 from 2021-07-06 for 4 days
rental vehicle 3 from 2021-12-15 for 5 days
rental vehicle 2 from 2021-11-23 for 2 days
rental vehicle 2 from 2021-12-19 for 6 days
rental vehicle 1 from 2021-04-01 for 5 days sorry vehicle already booked
rental vehicle 4 from 2021-12-27 for 2 days
rental vehicle 10 from 2021-08-23 for 5 days
rental vehicle 6 from 2021-09-24 for 4 days sorry vehicle already booked
rental vehicle 5 from 2021-10-09 for 2 days
rental vehicle 8 from 2021-05-20 for 1 days
rental vehicle 4 from 2021-08-14 for 3 days
rental vehicle 1 from 2021-11-29 for 4 days sorry vehicle already booked
rental vehicle 10 from 2021-10-04 for 1 days
rental vehicle 2 from 2021-04-16 for 7 days sorry vehicle already booked
rental vehicle 8 from 2021-03-18 for 5 days
rental vehicle 9 from 2021-08-02 for 4 days
rental vehicle 5 from 2021-01-20 for 4 days sorry vehicle already booked
rental vehicle 10 from 2021-02-26 for 1 days
rental vehicle 2 from 2021-11-11 for 5 days
rental vehicle 10 from 2021-08-22 for 7 days sorry vehicle already booked
rental vehicle 6 from 2021-08-28 for 4 days
rental vehicle 3 from 2021-04-09 for 4 days
rental vehicle 5 from 2021-04-20 for 4 days
rental vehicle 3 from 2021-04-24 for 7 days
rental vehicle 4 from 2021-09-09 for 4 days sorry vehicle already booked
rental vehicle 10 from 2021-10-29 for 7 days
rental vehicle 11 from 2021-03-04 for 2 days
rental vehicle 7 from 2021-04-30 for 4 days
rental vehicle 1 from 2021-04-15 for 4 days
rental vehicle 2 from 2021-04-21 for 5 days sorry vehicle already booked
rental vehicle 3 from 2021-08-12 for 5 days sorry vehicle already booked
rental vehicle 4 from 2021-01-03 for 6 days
rental vehicle 1 from 2021-12-02 for 2 days
rental vehicle 1 from 2021-05-31 for 7 days
rental vehicle 1 from 2021-04-11 for 7 days sorry vehicle already booked
rental vehicle 2 from 2021-07-02 for 3 days
rental vehicle 5 from 2021-12-10 for 4 days
rental vehicle 7 from 2021-11-08 for 4 days sorry vehicle already booked
rental vehicle 6 from 2021-05-10 for 6 days
rental vehicle 8 from 2021-08-28 for 3 days
rental vehicle 8 from 2021-10-14 for 7 days
rental vehicle 3 from 2021-02-22 for 4 days
rental vehicle 6 from 2021-08-26 for 3 days sorry vehicle already booked
rental vehicle 9 from 2021-09-08 for 3 days
rental vehicle 4 from 2021-11-23 for 4 days
rental vehicle 7 from 2021-03-08 for 4 days sorry vehicle already booked
rental vehicle 3 from 2021-08-14 for 3 days sorry vehicle already booked
rental vehicle 9 from 2021-01-21 for 5 days
rental vehicle 8 from 2021-12-22 for 1 days
rental vehicle 5 from 2021-01-31 for 5 days
rental vehicle 4 from 2021-04-10 for 7 days
rental vehicle 2 from 2021-01-29 for 4 days
rental vehicle 1 from 2021-03-15 for 5 days
rental vehicle 8 from 2021-11-21 for 1 days
rental vehicle 7 from 2021-02-11 for 7 days sorry vehicle already booked
rental vehicle 5 from 2021-03-11 for 5 days
rental vehicle 5 from 2021-05-02 for 5 days
rental vehicle 9 from 2021-09-26 for 5 days sorry vehicle already booked
rental vehicle 8 from 2021-04-24 for 2 days sorry vehicle already booked
rental vehicle 7 from 2021-04-10 for 7 days
rental vehicle 9 from 2021-04-13 for 4 days
rental vehicle 6 from 2021-06-29 for 3 days
rental vehicle 8 from 2021-11-16 for 4 days
rental vehicle 8 from 2021-05-21 for 5 days sorry vehicle already booked
rental vehicle 2 from 2021-09-29 for 1 days

rental vehicle 1 from 2021-01-06 for 7 days
rental vehicle 11 from 2021-10-10 for 2 days
rental vehicle 11 from 2021-06-29 for 1 days
rental vehicle 10 from 2021-05-18 for 6 days sorry vehicle already booked
rental vehicle 9 from 2021-06-04 for 1 days sorry vehicle already booked
rental vehicle 4 from 2021-07-17 for 2 days
rental vehicle 8 from 2021-11-22 for 4 days sorry vehicle already booked
rental vehicle 5 from 2021-11-07 for 6 days
rental vehicle 9 from 2021-07-12 for 7 days
rental vehicle 11 from 2021-02-28 for 3 days
rental vehicle 2 from 2021-07-23 for 4 days
rental vehicle 9 from 2021-04-06 for 4 days
rental vehicle 11 from 2021-04-13 for 1 days sorry vehicle already booked
rental vehicle 6 from 2021-08-20 for 6 days
rental vehicle 4 from 2021-04-07 for 3 days sorry vehicle already booked
rental vehicle 4 from 2021-12-09 for 4 days
rental vehicle 6 from 2021-02-01 for 3 days
rental vehicle 6 from 2021-12-08 for 5 days
rental vehicle 11 from 2021-11-18 for 1 days sorry vehicle already booked
rental vehicle 3 from 2021-03-29 for 1 days sorry vehicle already booked
rental vehicle 8 from 2021-03-02 for 7 days sorry vehicle already booked
rental vehicle 6 from 2021-01-15 for 6 days
rental vehicle 1 from 2021-08-14 for 6 days sorry vehicle already booked
rental vehicle 4 from 2021-03-21 for 2 days
rental vehicle 1 from 2021-10-09 for 4 days
rental vehicle 9 from 2021-01-17 for 3 days
rental vehicle 1 from 2021-07-16 for 5 days
rental vehicle 3 from 2021-06-05 for 2 days sorry vehicle already booked
rental vehicle 9 from 2021-05-09 for 5 days sorry vehicle already booked
rental vehicle 7 from 2021-11-10 for 3 days
rental vehicle 1 from 2021-10-15 for 4 days
rental vehicle 2 from 2021-10-20 for 1 days
rental vehicle 5 from 2021-07-20 for 5 days
rental vehicle 1 from 2021-02-28 for 7 days sorry vehicle already booked
rental vehicle 6 from 2021-05-25 for 6 days
rental vehicle 1 from 2021-07-06 for 4 days
rental vehicle 7 from 2021-03-09 for 7 days sorry vehicle already booked
rental vehicle 5 from 2021-07-19 for 6 days sorry vehicle already booked
rental vehicle 9 from 2021-07-26 for 5 days sorry vehicle already booked
rental vehicle 1 from 2021-10-15 for 3 days sorry vehicle already booked
rental vehicle 10 from 2021-02-17 for 1 days
rental vehicle 1 from 2021-03-20 for 3 days sorry vehicle already booked
rental vehicle 8 from 2021-12-15 for 2 days
rental vehicle 9 from 2021-04-05 for 3 days sorry vehicle already booked
rental vehicle 10 from 2021-05-02 for 7 days sorry vehicle already booked
rental vehicle 11 from 2021-08-30 for 3 days
rental vehicle 6 from 2021-02-05 for 5 days sorry vehicle already booked
rental vehicle 7 from 2021-07-20 for 1 days
rental vehicle 4 from 2021-10-18 for 3 days sorry vehicle already booked
rental vehicle 6 from 2021-06-01 for 1 days
rental vehicle 8 from 2021-03-26 for 1 days
rental vehicle 4 from 2021-01-28 for 3 days
rental vehicle 7 from 2021-10-09 for 3 days
rental vehicle 5 from 2021-07-19 for 7 days sorry vehicle already booked
rental vehicle 7 from 2021-06-20 for 2 days
rental vehicle 3 from 2021-05-22 for 3 days
rental vehicle 1 from 2021-10-24 for 5 days
rental vehicle 2 from 2021-06-12 for 3 days
rental vehicle 8 from 2021-05-28 for 2 days
rental vehicle 6 from 2021-05-11 for 5 days sorry vehicle already booked
rental vehicle 6 from 2021-12-04 for 2 days
rental vehicle 9 from 2021-10-02 for 7 days
rental vehicle 3 from 2021-01-23 for 3 days
rental vehicle 10 from 2021-04-07 for 5 days
rental vehicle 6 from 2021-10-27 for 4 days
rental vehicle 8 from 2021-01-08 for 6 days
rental vehicle 11 from 2021-11-30 for 1 days
rental vehicle 11 from 2021-04-27 for 4 days

MENUE

A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-27
E print rental of tomorrow 2021-01-28
F print all rentals
G print agency profit
H set agency profit percent
I add bikes

```
J add E-bikes
K add E-scooters
L new rental simulation
your choice: f
SCHEDULE FOR 1: City1 (Bike)
2021-01-06 to 2021-01-13, rental no. 157 for customer155 , total: 69.93 EUR
2021-03-04 to 2021-03-06, rental no. 40 for customer38 , total: 19.98 EUR
2021-03-15 to 2021-03-20, rental no. 148 for customer146 , total: 49.95 EUR
2021-04-06 to 2021-04-11, rental no. 90 for customer88 , total: 49.95 EUR
2021-04-15 to 2021-04-19, rental no. 131 for customer129 , total: 39.96 EUR
2021-05-18 to 2021-05-22, rental no. 76 for customer74 , total: 39.96 EUR
2021-05-31 to 2021-06-07, rental no. 134 for customer132 , total: 69.93 EUR
2021-07-06 to 2021-07-10, rental no. 180 for customer178 , total: 39.96 EUR
2021-07-16 to 2021-07-21, rental no. 174 for customer172 , total: 49.95 EUR
2021-08-13 to 2021-08-17, rental no. 56 for customer54 , total: 39.96 EUR
2021-08-20 to 2021-08-23, rental no. 80 for customer78 , total: 29.97 EUR
2021-10-09 to 2021-10-13, rental no. 172 for customer170 , total: 39.96 EUR
2021-10-15 to 2021-10-19, rental no. 176 for customer174 , total: 39.96 EUR
2021-10-24 to 2021-10-29, rental no. 191 for customer189 , total: 49.95 EUR
2021-11-28 to 2021-12-01, rental no. 73 for customer71 , total: 29.97 EUR
2021-12-02 to 2021-12-04, rental no. 133 for customer131 , total: 19.98 EUR
2021-12-27 to 2021-12-28, rental no. 77 for customer75 , total: 9.99 EUR
SCHEDULE FOR 2: City2 (Bike)
2021-01-02 to 2021-01-05, rental no. 12 for customer10 , total: 29.97 EUR
2021-01-29 to 2021-02-02, rental no. 147 for customer145 , total: 39.96 EUR
2021-02-03 to 2021-02-06, rental no. 67 for customer65 , total: 29.97 EUR
2021-03-16 to 2021-03-23, rental no. 37 for customer35 , total: 69.93 EUR
2021-04-06 to 2021-04-11, rental no. 70 for customer68 , total: 49.95 EUR
2021-04-18 to 2021-04-21, rental no. 101 for customer99 , total: 29.97 EUR
2021-05-05 to 2021-05-08, rental no. 94 for customer92 , total: 29.97 EUR
2021-05-19 to 2021-05-22, rental no. 8 for customer6 , total: 29.97 EUR
2021-06-12 to 2021-06-15, rental no. 192 for customer190 , total: 29.97 EUR
2021-07-02 to 2021-07-05, rental no. 135 for customer133 , total: 29.97 EUR
2021-07-23 to 2021-07-27, rental no. 164 for customer162 , total: 39.96 EUR
2021-08-22 to 2021-08-25, rental no. 79 for customer77 , total: 29.97 EUR
2021-09-25 to 2021-09-26, rental no. 49 for customer47 , total: 9.99 EUR
2021-09-29 to 2021-09-30, rental no. 156 for customer154 , total: 9.99 EUR
2021-10-20 to 2021-10-21, rental no. 177 for customer175 , total: 9.99 EUR
2021-10-30 to 2021-11-06, rental no. 99 for customer97 , total: 69.93 EUR
2021-11-11 to 2021-11-16, rental no. 123 for customer121 , total: 49.95 EUR
2021-11-23 to 2021-11-25, rental no. 112 for customer110 , total: 19.98 EUR
2021-11-29 to 2021-12-01, rental no. 89 for customer87 , total: 19.98 EUR
2021-12-11 to 2021-12-16, rental no. 22 for customer20 , total: 49.95 EUR
2021-12-19 to 2021-12-25, rental no. 113 for customer111 , total: 59.94 EUR
SCHEDULE FOR 3: City3 (Bike)
2021-01-23 to 2021-01-26, rental no. 196 for customer194 , total: 29.97 EUR
2021-02-12 to 2021-02-15, rental no. 1 for Dilbert , total: 29.97 EUR
2021-02-22 to 2021-02-26, rental no. 140 for customer138 , total: 39.96 EUR
2021-03-30 to 2021-04-06, rental no. 15 for customer13 , total: 69.93 EUR
2021-04-09 to 2021-04-13, rental no. 125 for customer123 , total: 39.96 EUR
2021-04-24 to 2021-05-01, rental no. 127 for customer125 , total: 69.93 EUR
2021-05-22 to 2021-05-25, rental no. 190 for customer188 , total: 29.97 EUR
2021-06-05 to 2021-06-09, rental no. 96 for customer94 , total: 39.96 EUR
2021-06-13 to 2021-06-15, rental no. 87 for customer85 , total: 19.98 EUR
2021-07-01 to 2021-07-03, rental no. 14 for customer12 , total: 19.98 EUR
2021-07-14 to 2021-07-20, rental no. 17 for customer15 , total: 59.94 EUR
2021-07-21 to 2021-07-25, rental no. 61 for customer59 , total: 39.96 EUR
2021-08-16 to 2021-08-22, rental no. 20 for customer18 , total: 59.94 EUR
2021-10-04 to 2021-10-09, rental no. 78 for customer76 , total: 49.95 EUR
2021-10-27 to 2021-10-30, rental no. 6 for customer4 , total: 29.97 EUR
2021-12-11 to 2021-12-14, rental no. 58 for customer56 , total: 29.97 EUR
2021-12-15 to 2021-12-20, rental no. 111 for customer109 , total: 49.95 EUR
SCHEDULE FOR 4: Trekky1 (EBike)
2021-01-03 to 2021-01-09, rental no. 132 for customer130 , total: 179.94 EUR
2021-01-28 to 2021-01-31, rental no. 187 for customer185 , total: 89.97 EUR
2021-03-21 to 2021-03-23, rental no. 171 for customer169 , total: 59.98 EUR
2021-04-10 to 2021-04-17, rental no. 146 for customer144 , total: 209.93 EUR
2021-05-05 to 2021-05-09, rental no. 52 for customer50 , total: 119.96 EUR
2021-05-24 to 2021-05-26, rental no. 5 for customer3 , total: 59.98 EUR
2021-07-17 to 2021-07-19, rental no. 160 for customer158 , total: 59.98 EUR
2021-07-24 to 2021-07-28, rental no. 27 for customer25 , total: 119.96 EUR
2021-08-14 to 2021-08-17, rental no. 118 for customer116 , total: 89.97 EUR
2021-09-08 to 2021-09-09, rental no. 108 for customer106 , total: 29.99 EUR
2021-09-12 to 2021-09-18, rental no. 55 for customer53 , total: 179.94 EUR
2021-10-12 to 2021-10-14, rental no. 68 for customer66 , total: 59.98 EUR
2021-10-18 to 2021-10-25, rental no. 93 for customer91 , total: 209.93 EUR
2021-11-23 to 2021-11-27, rental no. 142 for customer140 , total: 119.96 EUR
2021-12-01 to 2021-12-08, rental no. 105 for customer103 , total: 209.93 EUR
2021-12-09 to 2021-12-13, rental no. 167 for customer165 , total: 119.96 EUR
```


2021-12-27 to 2021-12-29, rental no. 114 for customer112 , total: 59.98 EUR
SCHEDULE FOR 5: Trekky2 (EBike)
2021-01-14 to 2021-01-19, rental no. 97 for customer95 , total: 149.95 EUR
2021-01-22 to 2021-01-23, rental no. 2 for Wally , total: 29.99 EUR
2021-01-31 to 2021-02-05, rental no. 145 for customer143 , total: 149.95 EUR
2021-02-28 to 2021-03-07, rental no. 32 for customer30 , total: 209.93 EUR
2021-03-11 to 2021-03-16, rental no. 150 for customer148 , total: 149.95 EUR
2021-04-10 to 2021-04-17, rental no. 50 for customer48 , total: 209.93 EUR
2021-04-20 to 2021-04-24, rental no. 126 for customer124 , total: 119.96 EUR
2021-05-02 to 2021-05-07, rental no. 151 for customer149 , total: 149.95 EUR
2021-05-11 to 2021-05-17, rental no. 53 for customer51 , total: 179.94 EUR
2021-05-29 to 2021-06-01, rental no. 86 for customer84 , total: 89.97 EUR
2021-06-25 to 2021-06-29, rental no. 36 for customer34 , total: 119.96 EUR
2021-07-15 to 2021-07-17, rental no. 18 for customer16 , total: 59.98 EUR
2021-07-20 to 2021-07-25, rental no. 178 for customer176 , total: 149.95 EUR
2021-09-19 to 2021-09-25, rental no. 3 for customer1 , total: 179.94 EUR
2021-09-29 to 2021-10-06, rental no. 42 for customer40 , total: 209.93 EUR
2021-10-09 to 2021-10-11, rental no. 116 for customer114 , total: 59.98 EUR
2021-11-07 to 2021-11-13, rental no. 161 for customer159 , total: 179.94 EUR
2021-12-10 to 2021-12-14, rental no. 136 for customer134 , total: 119.96 EUR
2021-12-17 to 2021-12-24, rental no. 39 for customer37 , total: 209.93 EUR
SCHEDULE FOR 6: Trekky3 (EBike)
2021-01-15 to 2021-01-21, rental no. 170 for customer168 , total: 179.94 EUR
2021-02-01 to 2021-02-04, rental no. 168 for customer166 , total: 89.97 EUR
2021-02-09 to 2021-02-12, rental no. 92 for customer90 , total: 89.97 EUR
2021-03-11 to 2021-03-12, rental no. 10 for customer8 , total: 29.99 EUR
2021-03-18 to 2021-03-20, rental no. 38 for customer36 , total: 59.98 EUR
2021-04-07 to 2021-04-09, rental no. 4 for customer2 , total: 59.98 EUR
2021-04-15 to 2021-04-21, rental no. 29 for customer27 , total: 179.94 EUR
2021-04-28 to 2021-05-02, rental no. 88 for customer86 , total: 119.96 EUR
2021-05-10 to 2021-05-16, rental no. 137 for customer135 , total: 179.94 EUR
2021-05-25 to 2021-05-31, rental no. 179 for customer177 , total: 179.94 EUR
2021-06-01 to 2021-06-02, rental no. 185 for customer183 , total: 29.99 EUR
2021-06-29 to 2021-07-02, rental no. 154 for customer152 , total: 89.97 EUR
2021-08-20 to 2021-08-26, rental no. 166 for customer164 , total: 179.94 EUR
2021-08-28 to 2021-09-01, rental no. 124 for customer122 , total: 119.96 EUR
2021-09-20 to 2021-09-26, rental no. 57 for customer55 , total: 179.94 EUR
2021-10-27 to 2021-10-31, rental no. 198 for customer196 , total: 119.96 EUR
2021-11-11 to 2021-11-13, rental no. 21 for customer19 , total: 59.98 EUR
2021-12-04 to 2021-12-06, rental no. 194 for customer192 , total: 59.98 EUR
2021-12-08 to 2021-12-13, rental no. 169 for customer167 , total: 149.95 EUR
2021-12-29 to 2021-12-31, rental no. 59 for customer57 , total: 59.98 EUR
SCHEDULE FOR 7: Trekky4 (EBike)
2021-02-07 to 2021-02-14, rental no. 83 for customer81 , total: 209.93 EUR
2021-03-07 to 2021-03-13, rental no. 35 for customer33 , total: 179.94 EUR
2021-03-17 to 2021-03-21, rental no. 74 for customer72 , total: 119.96 EUR
2021-04-10 to 2021-04-17, rental no. 152 for customer150 , total: 209.93 EUR
2021-04-30 to 2021-05-04, rental no. 130 for customer128 , total: 119.96 EUR
2021-05-24 to 2021-05-29, rental no. 64 for customer62 , total: 149.95 EUR
2021-06-20 to 2021-06-22, rental no. 189 for customer187 , total: 59.98 EUR
2021-07-13 to 2021-07-17, rental no. 46 for customer44 , total: 119.96 EUR
2021-07-20 to 2021-07-21, rental no. 184 for customer182 , total: 29.99 EUR
2021-08-18 to 2021-08-20, rental no. 41 for customer39 , total: 59.98 EUR
2021-08-21 to 2021-08-26, rental no. 25 for customer23 , total: 149.95 EUR
2021-09-18 to 2021-09-19, rental no. 19 for customer17 , total: 29.99 EUR
2021-10-09 to 2021-10-12, rental no. 188 for customer186 , total: 89.97 EUR
2021-10-28 to 2021-11-01, rental no. 100 for customer98 , total: 119.96 EUR
2021-11-06 to 2021-11-09, rental no. 48 for customer46 , total: 89.97 EUR
2021-11-10 to 2021-11-13, rental no. 175 for customer173 , total: 89.97 EUR
2021-12-12 to 2021-12-16, rental no. 109 for customer107 , total: 119.96 EUR
SCHEDULE FOR 8: City4 (Bike)
2021-01-08 to 2021-01-14, rental no. 199 for customer197 , total: 59.94 EUR
2021-01-19 to 2021-01-26, rental no. 107 for customer105 , total: 69.93 EUR
2021-02-04 to 2021-02-06, rental no. 98 for customer96 , total: 19.98 EUR
2021-03-05 to 2021-03-11, rental no. 62 for customer60 , total: 59.94 EUR
2021-03-18 to 2021-03-23, rental no. 120 for customer118 , total: 49.95 EUR
2021-03-26 to 2021-03-27, rental no. 186 for customer184 , total: 9.99 EUR
2021-04-24 to 2021-04-26, rental no. 60 for customer58 , total: 19.98 EUR
2021-05-20 to 2021-05-21, rental no. 117 for customer115 , total: 9.99 EUR
2021-05-28 to 2021-05-30, rental no. 193 for customer191 , total: 19.98 EUR
2021-06-02 to 2021-06-04, rental no. 30 for customer28 , total: 19.98 EUR
2021-07-06 to 2021-07-10, rental no. 110 for customer108 , total: 39.96 EUR
2021-08-17 to 2021-08-24, rental no. 33 for customer31 , total: 69.93 EUR
2021-08-28 to 2021-08-31, rental no. 138 for customer136 , total: 29.97 EUR
2021-09-09 to 2021-09-14, rental no. 34 for customer32 , total: 49.95 EUR
2021-09-29 to 2021-10-06, rental no. 11 for customer9 , total: 69.93 EUR
2021-10-14 to 2021-10-21, rental no. 139 for customer137 , total: 69.93 EUR
2021-11-01 to 2021-11-08, rental no. 65 for customer63 , total: 69.93 EUR
2021-11-16 to 2021-11-20, rental no. 155 for customer153 , total: 39.96 EUR

2021-11-21 to 2021-11-22, rental no. 149 for customer147 , total: 9.99 EUR
2021-12-15 to 2021-12-17, rental no. 182 for customer180 , total: 19.98 EUR
2021-12-22 to 2021-12-23, rental no. 144 for customer142 , total: 9.99 EUR
SCHEDULE FOR 9: Scooty1 (not street legal) (EScooter)
2021-01-09 to 2021-01-15, rental no. 9 for customer7 , total: 89.94 EUR
2021-01-17 to 2021-01-20, rental no. 173 for customer171 , total: 44.97 EUR
2021-01-21 to 2021-01-26, rental no. 143 for customer141 , total: 74.95 EUR
2021-02-05 to 2021-02-08, rental no. 16 for customer14 , total: 44.97 EUR
2021-03-09 to 2021-03-11, rental no. 85 for customer83 , total: 29.98 EUR
2021-04-06 to 2021-04-10, rental no. 165 for customer163 , total: 59.96 EUR
2021-04-13 to 2021-04-17, rental no. 153 for customer151 , total: 59.96 EUR
2021-04-19 to 2021-04-25, rental no. 47 for customer45 , total: 89.94 EUR
2021-05-13 to 2021-05-17, rental no. 104 for customer102 , total: 59.96 EUR
2021-05-20 to 2021-05-23, rental no. 31 for customer29 , total: 44.97 EUR
2021-06-03 to 2021-06-07, rental no. 75 for customer73 , total: 59.96 EUR
2021-06-12 to 2021-06-14, rental no. 102 for customer100 , total: 29.98 EUR
2021-07-12 to 2021-07-19, rental no. 162 for customer160 , total: 104.93 EUR
2021-07-26 to 2021-08-01, rental no. 26 for customer24 , total: 89.94 EUR
2021-08-02 to 2021-08-06, rental no. 121 for customer119 , total: 59.96 EUR
2021-08-22 to 2021-08-29, rental no. 66 for customer64 , total: 104.93 EUR
2021-09-08 to 2021-09-11, rental no. 141 for customer139 , total: 44.97 EUR
2021-09-20 to 2021-09-27, rental no. 63 for customer61 , total: 104.93 EUR
2021-10-02 to 2021-10-09, rental no. 195 for customer193 , total: 104.93 EUR
2021-10-19 to 2021-10-21, rental no. 54 for customer52 , total: 29.98 EUR
SCHEDULE FOR 10: Scooty2 (not street legal) (EScooter)
2021-01-26 to 2021-01-31, rental no. 51 for customer49 , total: 74.95 EUR
2021-02-17 to 2021-02-18, rental no. 181 for customer179 , total: 14.99 EUR
2021-02-26 to 2021-02-27, rental no. 122 for customer120 , total: 14.99 EUR
2021-04-07 to 2021-04-12, rental no. 197 for customer195 , total: 74.95 EUR
2021-04-28 to 2021-05-03, rental no. 103 for customer101 , total: 74.95 EUR
2021-05-09 to 2021-05-13, rental no. 84 for customer82 , total: 59.96 EUR
2021-05-23 to 2021-05-30, rental no. 71 for customer69 , total: 104.93 EUR
2021-07-07 to 2021-07-10, rental no. 28 for customer26 , total: 44.97 EUR
2021-07-27 to 2021-07-30, rental no. 13 for customer11 , total: 44.97 EUR
2021-08-23 to 2021-08-28, rental no. 115 for customer113 , total: 74.95 EUR
2021-09-11 to 2021-09-13, rental no. 95 for customer93 , total: 29.98 EUR
2021-10-04 to 2021-10-05, rental no. 119 for customer117 , total: 14.99 EUR
2021-10-29 to 2021-11-05, rental no. 128 for customer126 , total: 104.93 EUR
2021-11-23 to 2021-11-30, rental no. 106 for customer104 , total: 104.93 EUR
2021-12-02 to 2021-12-07, rental no. 91 for customer89 , total: 74.95 EUR
2021-12-12 to 2021-12-17, rental no. 45 for customer43 , total: 74.95 EUR
SCHEDULE FOR 11: Scooty3 (not street legal) (EScooter)
2021-12-29 to 2022-01-03, rental no. 7 for customer5 , total: 74.95 EUR
2021-01-19 to 2021-01-25, rental no. 81 for customer79 , total: 89.94 EUR
2021-02-04 to 2021-02-10, rental no. 44 for customer42 , total: 89.94 EUR
2021-02-28 to 2021-03-03, rental no. 163 for customer161 , total: 44.97 EUR
2021-03-04 to 2021-03-06, rental no. 129 for customer127 , total: 29.98 EUR
2021-03-19 to 2021-03-25, rental no. 69 for customer67 , total: 89.94 EUR
2021-04-06 to 2021-04-09, rental no. 23 for customer21 , total: 44.97 EUR
2021-04-12 to 2021-04-14, rental no. 24 for customer22 , total: 29.98 EUR
2021-04-27 to 2021-05-01, rental no. 201 for customer199 , total: 59.96 EUR
2021-06-21 to 2021-06-26, rental no. 72 for customer70 , total: 74.95 EUR
2021-06-29 to 2021-06-30, rental no. 159 for customer157 , total: 14.99 EUR
2021-08-30 to 2021-09-02, rental no. 183 for customer181 , total: 44.97 EUR
2021-09-16 to 2021-09-17, rental no. 43 for customer41 , total: 14.99 EUR
2021-10-10 to 2021-10-12, rental no. 158 for customer156 , total: 29.98 EUR
2021-11-14 to 2021-11-19, rental no. 82 for customer80 , total: 74.95 EUR
2021-11-30 to 2021-12-01, rental no. 200 for customer198 , total: 14.99 EUR
2021-12-29 to 2022-01-03, rental no. 7 for customer5 , total: 74.95 EUR
profit: 5243.69 EUR

MENUE

A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-27
E print rental of tomorrow 2021-01-28
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: d
SCHEDULE FOR 2021-01-27
1: City1 (Bike)
2: City2 (Bike)
3: City3 (Bike)

```
4: Trekky1 (EBike)
5: Trekky2 (EBike)
6: Trekky3 (EBike)
7: Trekky4 (EBike)
8: City4 (Bike)
9: Scooty1 (not street legal) (EScooter)
10: Scooty2 (not street legal) (EScooter)
2021-01-26 to 2021-01-31, rental no. 51 for customer49 11: Scooty3 (not street legal) (EScooter)
```

MENUE

```
A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-27
E print rental of tomorrow 2021-01-28
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: e
```

SCHEDULE FOR 2021-01-28

```
1: City1 (Bike)
2: City2 (Bike)
3: City3 (Bike)
4: Trekky1 (EBike)
2021-01-28 to 2021-01-31, rental no. 187 for customer185 5: Trekky2 (EBike)
6: Trekky3 (EBike)
7: Trekky4 (EBike)
8: City4 (Bike)
9: Scooty1 (not street legal) (EScooter)
10: Scooty2 (not street legal) (EScooter)
2021-01-26 to 2021-01-31, rental no. 51 for customer49 11: Scooty3 (not street legal) (EScooter)
```

MENUE

```
A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-27
E print rental of tomorrow 2021-01-28
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: l
```

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how many reservations to simulate? 200
```

```
rental vehicle 2 from 2021-11-21 for 4 days sorry vehicle already booked
rental vehicle 9 from 2021-04-16 for 1 days sorry vehicle already booked
rental vehicle 3 from 2021-03-05 for 1 days
rental vehicle 5 from 2021-04-29 for 2 days
rental vehicle 5 from 2021-03-27 for 4 days
rental vehicle 6 from 2021-07-27 for 1 days
rental vehicle 7 from 2021-05-02 for 6 days sorry vehicle already booked
rental vehicle 9 from 2021-12-27 for 6 days
rental vehicle 1 from 2021-11-22 for 3 days
rental vehicle 9 from 2021-09-04 for 5 days sorry vehicle already booked
rental vehicle 5 from 2021-04-05 for 1 days
rental vehicle 1 from 2021-07-20 for 6 days sorry vehicle already booked
rental vehicle 8 from 2021-04-25 for 3 days sorry vehicle already booked
rental vehicle 6 from 2021-08-23 for 2 days sorry vehicle already booked
rental vehicle 9 from 2021-02-13 for 6 days
rental vehicle 4 from 2021-10-22 for 7 days sorry vehicle already booked
rental vehicle 10 from 2021-01-27 for 5 days sorry vehicle already booked
rental vehicle 1 from 2021-09-04 for 2 days
rental vehicle 3 from 2021-11-09 for 6 days
rental vehicle 2 from 2021-02-25 for 3 days
rental vehicle 6 from 2021-10-13 for 1 days
rental vehicle 2 from 2021-07-02 for 5 days sorry vehicle already booked
rental vehicle 3 from 2021-09-21 for 1 days
rental vehicle 6 from 2021-11-11 for 7 days sorry vehicle already booked
rental vehicle 2 from 2021-04-13 for 2 days
rental vehicle 11 from 2021-06-13 for 2 days
rental vehicle 9 from 2021-11-14 for 7 days
rental vehicle 5 from 2021-08-30 for 7 days
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rental vehicle 3 from 2021-03-24 for 7 days sorry vehicle already booked
rental vehicle 9 from 2021-11-09 for 4 days
rental vehicle 8 from 2021-07-18 for 5 days
rental vehicle 6 from 2021-06-25 for 1 days
rental vehicle 3 from 2021-01-31 for 3 days
rental vehicle 11 from 2021-12-07 for 1 days
rental vehicle 6 from 2021-05-09 for 6 days sorry vehicle already booked
rental vehicle 3 from 2021-11-23 for 1 days
rental vehicle 10 from 2021-01-18 for 4 days
rental vehicle 1 from 2021-09-01 for 1 days
rental vehicle 9 from 2021-11-03 for 2 days
rental vehicle 10 from 2021-03-31 for 3 days
rental vehicle 7 from 2021-02-06 for 7 days sorry vehicle already booked
rental vehicle 2 from 2021-07-31 for 5 days
rental vehicle 8 from 2021-09-08 for 4 days sorry vehicle already booked
rental vehicle 7 from 2021-04-06 for 7 days sorry vehicle already booked
rental vehicle 9 from 2021-03-18 for 3 days
rental vehicle 10 from 2021-09-10 for 6 days sorry vehicle already booked
rental vehicle 2 from 2021-06-17 for 6 days
rental vehicle 8 from 2021-06-17 for 3 days
rental vehicle 10 from 2021-10-20 for 5 days
rental vehicle 11 from 2021-07-02 for 7 days
rental vehicle 9 from 2021-02-27 for 2 days
rental vehicle 8 from 2021-09-23 for 3 days
rental vehicle 5 from 2021-08-13 for 1 days
rental vehicle 5 from 2021-03-28 for 3 days sorry vehicle already booked
rental vehicle 11 from 2021-04-09 for 6 days sorry vehicle already booked
rental vehicle 5 from 2021-07-09 for 3 days
rental vehicle 6 from 2021-04-20 for 1 days sorry vehicle already booked
rental vehicle 7 from 2021-09-27 for 3 days
rental vehicle 11 from 2021-12-31 for 6 days sorry vehicle already booked
rental vehicle 10 from 2021-11-21 for 6 days sorry vehicle already booked
rental vehicle 11 from 2021-03-08 for 2 days
rental vehicle 4 from 2021-08-21 for 3 days
rental vehicle 6 from 2021-12-09 for 2 days sorry vehicle already booked
rental vehicle 11 from 2021-08-02 for 1 days
rental vehicle 9 from 2021-11-25 for 3 days
rental vehicle 9 from 2021-09-06 for 4 days sorry vehicle already booked
rental vehicle 5 from 2021-04-27 for 2 days sorry vehicle already booked
rental vehicle 2 from 2021-08-16 for 3 days
rental vehicle 1 from 2021-09-12 for 7 days
rental vehicle 7 from 2021-12-31 for 6 days
rental vehicle 1 from 2021-11-20 for 6 days sorry vehicle already booked
rental vehicle 8 from 2021-04-16 for 7 days
rental vehicle 6 from 2021-05-07 for 2 days
rental vehicle 10 from 2021-11-09 for 2 days
rental vehicle 10 from 2021-10-22 for 1 days sorry vehicle already booked
rental vehicle 7 from 2021-01-16 for 2 days
rental vehicle 2 from 2021-06-04 for 7 days
rental vehicle 5 from 2021-02-05 for 6 days sorry vehicle already booked
rental vehicle 5 from 2021-12-18 for 2 days sorry vehicle already booked
rental vehicle 7 from 2021-12-22 for 3 days
rental vehicle 11 from 2021-09-20 for 2 days
rental vehicle 11 from 2021-05-04 for 7 days
rental vehicle 11 from 2021-03-19 for 2 days sorry vehicle already booked
rental vehicle 8 from 2021-05-13 for 3 days
rental vehicle 5 from 2021-12-13 for 1 days sorry vehicle already booked
rental vehicle 1 from 2021-09-14 for 2 days sorry vehicle already booked
rental vehicle 11 from 2021-04-22 for 3 days
rental vehicle 1 from 2021-10-31 for 1 days
rental vehicle 7 from 2021-06-08 for 5 days
rental vehicle 1 from 2021-10-17 for 3 days sorry vehicle already booked
rental vehicle 1 from 2021-05-22 for 3 days sorry vehicle already booked
rental vehicle 7 from 2021-04-25 for 1 days
rental vehicle 7 from 2021-06-22 for 2 days sorry vehicle already booked
rental vehicle 11 from 2021-05-14 for 3 days
rental vehicle 1 from 2021-04-27 for 1 days
rental vehicle 3 from 2021-06-23 for 7 days
rental vehicle 5 from 2021-07-02 for 2 days
rental vehicle 7 from 2021-10-04 for 6 days sorry vehicle already booked
rental vehicle 9 from 2021-06-06 for 5 days sorry vehicle already booked
rental vehicle 2 from 2021-03-18 for 6 days sorry vehicle already booked
rental vehicle 5 from 2021-12-29 for 1 days
rental vehicle 1 from 2021-04-15 for 6 days sorry vehicle already booked
rental vehicle 7 from 2021-11-23 for 2 days
rental vehicle 5 from 2021-11-12 for 1 days sorry vehicle already booked
rental vehicle 8 from 2021-08-09 for 7 days
rental vehicle 9 from 2021-07-27 for 2 days sorry vehicle already booked
rental vehicle 10 from 2021-07-05 for 6 days sorry vehicle already booked

rental vehicle 1 from 2021-12-07 for 3 days
rental vehicle 9 from 2021-07-31 for 2 days sorry vehicle already booked
rental vehicle 5 from 2021-03-18 for 2 days
rental vehicle 3 from 2021-01-15 for 7 days
rental vehicle 9 from 2021-07-17 for 2 days sorry vehicle already booked
rental vehicle 5 from 2021-12-08 for 1 days
rental vehicle 1 from 2021-07-19 for 7 days sorry vehicle already booked
rental vehicle 9 from 2021-09-02 for 2 days
rental vehicle 2 from 2021-11-22 for 3 days sorry vehicle already booked
rental vehicle 7 from 2021-10-12 for 6 days sorry vehicle already booked
rental vehicle 5 from 2021-07-12 for 3 days sorry vehicle already booked
rental vehicle 10 from 2021-11-15 for 6 days
rental vehicle 2 from 2021-03-22 for 1 days sorry vehicle already booked
rental vehicle 2 from 2021-03-06 for 7 days
rental vehicle 6 from 2021-11-30 for 4 days sorry vehicle already booked
rental vehicle 5 from 2021-07-20 for 3 days sorry vehicle already booked
rental vehicle 10 from 2021-10-09 for 7 days
rental vehicle 5 from 2021-10-20 for 7 days
rental vehicle 5 from 2021-01-25 for 7 days sorry vehicle already booked
rental vehicle 5 from 2021-11-02 for 4 days
rental vehicle 10 from 2021-09-09 for 2 days sorry vehicle already booked
rental vehicle 2 from 2021-05-27 for 1 days
rental vehicle 7 from 2021-11-10 for 5 days sorry vehicle already booked
rental vehicle 11 from 2021-05-27 for 6 days
rental vehicle 5 from 2021-03-03 for 3 days sorry vehicle already booked
rental vehicle 7 from 2021-09-04 for 2 days
rental vehicle 3 from 2021-08-15 for 6 days sorry vehicle already booked
rental vehicle 8 from 2021-10-07 for 4 days
rental vehicle 8 from 2021-03-06 for 4 days sorry vehicle already booked
rental vehicle 11 from 2021-08-26 for 3 days
rental vehicle 6 from 2021-12-04 for 2 days sorry vehicle already booked
rental vehicle 9 from 2021-06-27 for 3 days
rental vehicle 9 from 2021-03-25 for 3 days
rental vehicle 5 from 2021-01-02 for 2 days
rental vehicle 4 from 2021-11-05 for 5 days
rental vehicle 8 from 2021-11-26 for 4 days
rental vehicle 6 from 2021-08-06 for 6 days
rental vehicle 7 from 2021-01-19 for 5 days
rental vehicle 9 from 2021-07-02 for 6 days
rental vehicle 9 from 2021-07-16 for 7 days sorry vehicle already booked
rental vehicle 2 from 2021-07-03 for 3 days sorry vehicle already booked
rental vehicle 8 from 2021-10-21 for 6 days sorry vehicle already booked
rental vehicle 1 from 2021-06-26 for 6 days
rental vehicle 3 from 2021-09-24 for 4 days
rental vehicle 6 from 2021-02-16 for 1 days
rental vehicle 5 from 2021-08-04 for 6 days
rental vehicle 1 from 2021-08-25 for 3 days
rental vehicle 11 from 2021-02-20 for 4 days
rental vehicle 4 from 2021-05-09 for 2 days sorry vehicle already booked
rental vehicle 4 from 2021-11-19 for 7 days sorry vehicle already booked
rental vehicle 10 from 2021-10-18 for 2 days sorry vehicle already booked
rental vehicle 10 from 2021-06-10 for 7 days
rental vehicle 11 from 2021-01-03 for 4 days sorry vehicle already booked
rental vehicle 9 from 2021-08-08 for 7 days
rental vehicle 1 from 2021-01-17 for 6 days
rental vehicle 3 from 2021-04-25 for 7 days sorry vehicle already booked
rental vehicle 8 from 2021-10-27 for 4 days
rental vehicle 1 from 2021-12-10 for 1 days sorry vehicle already booked
rental vehicle 1 from 2021-01-03 for 5 days sorry vehicle already booked
rental vehicle 1 from 2021-02-07 for 1 days
rental vehicle 1 from 2021-05-09 for 2 days
rental vehicle 7 from 2021-01-26 for 1 days
rental vehicle 6 from 2021-04-08 for 3 days sorry vehicle already booked
rental vehicle 11 from 2021-10-21 for 7 days
rental vehicle 9 from 2021-10-26 for 4 days
rental vehicle 1 from 2021-09-19 for 6 days sorry vehicle already booked
rental vehicle 11 from 2021-03-10 for 2 days sorry vehicle already booked
rental vehicle 8 from 2021-06-17 for 6 days sorry vehicle already booked
rental vehicle 9 from 2021-09-20 for 6 days sorry vehicle already booked
rental vehicle 8 from 2021-10-14 for 7 days sorry vehicle already booked
rental vehicle 10 from 2021-10-31 for 4 days sorry vehicle already booked
rental vehicle 3 from 2021-09-29 for 4 days
rental vehicle 9 from 2021-12-22 for 7 days sorry vehicle already booked
rental vehicle 5 from 2021-03-07 for 7 days sorry vehicle already booked
rental vehicle 4 from 2021-01-14 for 3 days
rental vehicle 3 from 2021-08-25 for 1 days
rental vehicle 11 from 2021-06-21 for 1 days sorry vehicle already booked
rental vehicle 9 from 2021-10-12 for 4 days
rental vehicle 7 from 2021-01-09 for 1 days

rental vehicle 5 from 2021-12-13 for 5 days sorry vehicle already booked
rental vehicle 2 from 2021-07-03 for 6 days sorry vehicle already booked
rental vehicle 5 from 2021-04-06 for 2 days sorry vehicle already booked
rental vehicle 11 from 2021-01-31 for 1 days
rental vehicle 11 from 2021-07-19 for 6 days
rental vehicle 2 from 2021-05-13 for 5 days
rental vehicle 10 from 2021-06-15 for 6 days sorry vehicle already booked
rental vehicle 9 from 2021-01-27 for 2 days
rental vehicle 4 from 2021-05-21 for 3 days sorry vehicle already booked
rental vehicle 3 from 2021-08-14 for 3 days sorry vehicle already booked
rental vehicle 6 from 2021-02-21 for 3 days
rental vehicle 6 from 2021-10-26 for 3 days sorry vehicle already booked
rental vehicle 4 from 2021-01-30 for 7 days sorry vehicle already booked
rental vehicle 5 from 2021-10-08 for 6 days sorry vehicle already booked

MENUE

A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-27
E print rental of tomorrow 2021-01-28
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: d

SCHEDULE FOR 2021-01-27

1: City1 (Bike)
2: City2 (Bike)
3: City3 (Bike)
4: Trekky1 (EBike)
5: Trekky2 (EBike)
6: Trekky3 (EBike)
7: Trekky4 (EBike)
2021-01-26 to 2021-01-27, rental no. 302 for customer300 8: City4 (Bike)
9: Scooty1 (not street legal) (EScooter)
2021-01-27 to 2021-01-29, rental no. 313 for customer311 10: Scooty2 (not street legal) (EScooter)
2021-01-26 to 2021-01-31, rental no. 51 for customer49 11: Scooty3 (not street legal) (EScooter)

MENUE

A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-27
E print rental of tomorrow 2021-01-28
F print all rentals
G print agency profit
H set agency profit percent
I add bikes
J add E-bikes
K add E-scooters
L new rental simulation
your choice: e

SCHEDULE FOR 2021-01-28

1: City1 (Bike)
2: City2 (Bike)
3: City3 (Bike)
4: Trekky1 (EBike)
2021-01-28 to 2021-01-31, rental no. 187 for customer185 5: Trekky2 (EBike)
6: Trekky3 (EBike)
7: Trekky4 (EBike)
8: City4 (Bike)
9: Scooty1 (not street legal) (EScooter)
2021-01-27 to 2021-01-29, rental no. 313 for customer311 10: Scooty2 (not street legal) (EScooter)
2021-01-26 to 2021-01-31, rental no. 51 for customer49 11: Scooty3 (not street legal) (EScooter)

MENUE

A end of simulation
B set new simulation date
C new rental manually
D print rental of today 2021-01-27
E print rental of tomorrow 2021-01-28
F print all rentals
G print agency profit
H set agency profit percent
I add bikes

J add E-bikes
K add E-scooters
L new rental simulation
your choice:

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Direkt zu:

[randomNumbers.cpp ▶](#)