

# Question5

## API Documentation

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# 1 Package q5

## 1.1 Modules

- **Couple** (*Section 2, p. 3*)
- **app** (*Section 3, p. 4*)
- **boy** (*Section 4, p. 5*)
- **gift** (*Section 5, p. 7*)
- **girl** (*Section 6, p. 9*)
- **helper** (*Section 7, p. 12*)

## 1.2 Variables

Name	Description
<code>--package--</code>	<b>Value:</b> None

## 2 Module q5.Couple

### 2.1 Variables

Name	Description
<code>--package--</code>	<b>Value:</b> 'q5'

### 2.2 Class Couple

#### 2.2.1 Methods

**`--init--`**(*self*, *boy*, *girl*, *gift\_list*, *happiness*=0)

:param boy: boy object :param girl: girl object :param gift\_list: list of gift object :param happiness: happiness of couple

**`--str--`**(*self*)

**`allocate_gifts`**(*self*, *gift\_list*)

Allocates gift from given gift list :param gift\_list: list of gift objects :return:

**`set_happiness`**(*self*)

Calculates boy's and girl's happiness individually and adds it. :return:

**`get_compatibility`**(*self*)

Calculates compatibility of the couple :return:

**`breakup`**(*self*)

### 3 Module q5.app

#### 3.1 Functions

<code>main()</code>
---------------------

#### 3.2 Variables

Name	Description
<code>__package__</code>	<b>Value:</b> 'q5'

## 4 Module q5.boy

### 4.1 Variables

Name	Description
<code>--package--</code>	<b>Value:</b> None

### 4.2 Class Boy

**Known Subclasses:** q5.boy.GeekBoy, q5.boy.GenerousBoy, q5.boy.MiserBoy

Class for boy

#### 4.2.1 Methods

```
--init__(self, name, attractiveness, min_attraction, intelligence, budget, single=1,
happiness=0)
```

```
--str__(self)
```

```
change_commitment(self)
```

### 4.3 Class GeekBoy



#### 4.3.1 Methods

```
--init__(self, name, attractiveness, min_attraction, intelligence, budget, single=1,
happiness=0)
```

Overrides: q5.boy.Boy.--init--

```
get_happiness(self, girlfriend)
```

**Inherited from q5.boy.Boy(Section 4.2)**

```
--str__(), change_commitment()
```

## 4.4 Class MiserBoy



### 4.4.1 Methods

```
__init__(self, name, attractiveness, min_attraction, intelligence, budget,
single=1, happiness=0)
Overrides: q5.boy.Boy.__init__
```

```
get_happiness(self, girlfriend)
```

*Inherited from q5.boy.Boy(Section 4.2)*

```
__str__(), change_commitment()
```

## 4.5 Class GenerousBoy



### 4.5.1 Methods

```
__init__(self, name, attractiveness, min_attraction, intelligence, budget,
single=1, happiness=0)
Overrides: q5.boy.Boy.__init__
```

```
get_happiness(self, girlfriend)
```

*Inherited from q5.boy.Boy(Section 4.2)*

```
__str__(), change_commitment()
```

## 5 Module q5.gift

### 5.1 Variables

Name	Description
<code>--package--</code>	<b>Value:</b> None

### 5.2 Class Gift

**Known Subclasses:** q5.gift.EssentialGift, q5.gift.LuxuryGift, q5.gift.UtilityGift

#### 5.2.1 Methods

<b><code>--init--</code></b> ( <i>self</i> , <i>name</i> , <i>price</i> , <i>value</i> ) <hr/> :param name: name of gift :param price: price of gift :param value: value of the gift
---

### 5.3 Class EssentialGift



#### 5.3.1 Methods

<b><code>--init--</code></b> ( <i>self</i> , <i>name</i> , <i>price</i> , <i>value</i> ) <hr/> :param name: name of gift :param price: price of gift :param value: value of the gift <hr/> Overrides: q5.gift.Gift.__init__ extit(inherited documentation)
--

### 5.4 Class LuxuryGift





### 5.4.1 Methods

<b><code>__init__</code></b> ( <i>self</i> , <i>name</i> , <i>price</i> , <i>value</i> , <i>difficulty</i> , <i>rating</i> ) <hr/> :param name: name of gift :param price: price of gift :param value: value of gift :param difficulty: difficulty in obtaining the gift :param rating: rating of the gift Overrides: <code>q5.gift.Gift.__init__</code>
--

## 5.5 Class *UtilityGift*



### 5.5.1 Methods

<b><code>__init__</code></b> ( <i>self</i> , <i>name</i> , <i>price</i> , <i>value</i> , <i>utility_value</i> , <i>utility_class</i> ) <hr/> :param name: name of gift :param price: price of gift :param value: value of gift :param utility_value: utility value of gift :param utility_class: utility class of gift Overrides: <code>q5.gift.Gift.__init__</code>
--

## 6 Module q5.girl

### 6.1 Variables

Name	Description
<code>--package--</code>	<b>Value:</b> 'q5'

### 6.2 Class Girl

**Known Subclasses:** q5.girl.ChoosyGirl, q5.girl.DesperateGirl, q5.girl.NormalGirl

Class for girl

#### 6.2.1 Methods

```
--init--(self, name, attractiveness, intelligence, budget, single=1, happiness=0)
```

:param name: Name of the girl :param attractiveness: attractiveness of the girl :param intelligence: intelligence of the girl :param budget: maintenance budget if the girl :param category: Category of the girl, wither choosy, normal or desperate :param single: single status, either 0 or 1 :param happiness: happiness of girl

```
--str--(self)
```

```
change_commitment(self, val=0)
```

change commitment status to given value :param val: :return:

```
single(self)
```

### 6.3 Class ChoosyGirl

```

q5.girl.Girl └─
                q5.girl.ChoosyGirl

```

### 6.3.1 Methods

```
__init__(self, name, attractiveness, intelligence, budget, single=1, happiness=0)

:param name: Name of the girl :param attractiveness: attractiveness of the
girl :param intelligence: intelligence of the girl :param budget: maintenance
budget if the girl :param category: Category of the girl, wither choosy, normal
or desperate :param single: single status, either 0 or 1 :param happiness:
happiness of girl
Overrides: q5.girl.Girl.__init__ extit(inherited documentation)
```

```
get_happiness(self)
```

*Inherited from q5.girl.Girl(Section 6.2)*

```
__str__(), change_commitment(), single()
```

## 6.4 Class NormalGirl



### 6.4.1 Methods

```
__init__(self, name, attractiveness, intelligence, budget, single=1, happiness=0)

:param name: Name of the girl :param attractiveness: attractiveness of the
girl :param intelligence: intelligence of the girl :param budget: maintenance
budget if the girl :param category: Category of the girl, wither choosy, normal
or desperate :param single: single status, either 0 or 1 :param happiness:
happiness of girl
Overrides: q5.girl.Girl.__init__ extit(inherited documentation)
```

```
get_happiness(self)
```

*Inherited from q5.girl.Girl(Section 6.2)*

```
__str__(), change_commitment(), single()
```

## 6.5 Class *DesperateGirl*



### 6.5.1 Methods

```
__init__(self, name, attractiveness, intelligence, budget, single=1, happiness=0)
```

:param *name*: Name of the girl :param *attractiveness*: attractiveness of the girl :param *intelligence*: intelligence of the girl :param *budget*: maintenance budget if the girl :param *category*: Category of the girl, wither choosy, normal or desperate :param *single*: single status, either 0 or 1 :param *happiness*: happiness of girl

Overrides: *q5.girl.Girl.\_\_init\_\_* extit(inherited documentation)

```
get_happiness(self)
```

*Inherited from q5.girl.Girl(Section 6.2)*

```
__str__(), change_commitment(), single()
```

## 7 Module q5.helper

### 7.1 Functions

**form\_couple**(*boy, girl*)

Takes a boy and girl and forms it couple :param boy: boy object :param girl: girl object :return:

**get\_boy\_list**()

Autogenerates a random boy list :return:

**get\_girl\_list**()

autogenerates a random girl list :return:

**get\_gift\_list**(*filename*)

Extracts gift data from csv file :param filename: filename of the csv file :return: list of gift objects

### 7.2 Variables

Name	Description
<code>--package--</code>	<b>Value:</b> 'q5'

## 8 Script script-log.txt

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