What are loops

1. times

<number>.times do
  <action>
end

also with argument

exercise:
- Print 5 times something
- Print 5 times something + index

2. while

while <condition>
  <action>
end

exercise:
- number = 1, print number while < 10

3. until

until <condition>
  <action>
end

exercise:
- number = 1, prin number until equal 10

Difference between while and until
What happens if while is replaced with until?
Otherwise?

4. break

<begin of cycle>
  break if <some condition>
<end of cycle>

exercise:
- in exercise with while/until add break condition

What is a collection
What is enumerable

1. each

<collection>.each do |var_name|
  <action>
end

- next, break

exercise:
- [1, 2, 3, 4, 5, 6, 7, 8], print each number
- print only even number
- stop if number equals to 5

- { "a" => 1, "b" => 2, "c" => 3 }, print each key/value

2. each_pair
What is difference between each and each_pair for hash?

3. each_key

<hash>.each_key do |key|
  <action>
end

4. each_value

<hash>.each_value do |value|
  <action>
end

Same exercises for hash with each_key, each_value

5. map
- map!

<collection>.map do |var_name|
 <action>
end

exercise:
- ["a", "b", "c"], append to each element "lala" string
- same with map!

- ["apple", "orange", "banana"], make them all uppercased
- show one line

- {"b" => 2, "c" => 3, "d" => 4}, increase each value with 10

What is difference between each and map?
What will return map if it will include multiple actions?

exercise:
- same array append "lala" string and then "ura" string, compare results

6. select

<collection>.select do |var_name|
 <condition>
end

exercise:
- ["ana", "bob", "criss", "daisy"], select all elements which contains
   letter 'a'

- {"b" => 2, "c" => 3, "d" => 4}, select elements with value
   greater or equal to 3

7. reject

Same exercises as select, compare results

What is the difference between select and reject?

8. index

<array>.index(<value>)

exercise:
- ["ana", "bob", "criss", "daisy"], find index of any element

9. detect

<collection>.detect do |var_name|
  <condition>
end

exercise:
- ["ana", "bob", "criss", "daisy"], find the first word which contains
  the letter 'a'
- {"b" => 2, "c" => 3, "d" => 4}, find the first element which
  value is greater then 2
- arr = [{"a" => 1}, {"b" => 2, "c" => 3}]
Find the element which has 2 values
Add another hash with 2 values

What is difference between detect and index?

10. all?

<collection>.all? do |var_name|
 <condition>
end

exercise:
- [1, 2, 3, 4, 5], find out if all elements are greater then 0
- find out if all elements are different from zero

- {"b" => 2, "c" => 3, "d" => 4}, find out if all value are empty

11. none?

<collection>.none? do |var_name|
 <condition>
end

Same exercises

Chained iterators
exercises:
1. array (1..10), add to each element 2, select even elements,
   find out if all a multiple of 3
2. multiple of 2
3. same example in one row

Home work
1. Create an array of numbers
   1.1. Display the index of the maximum number
   1.2. Display all numbers which are divided by 2 or 3
   1.3. Display all numbers which are not multiple of 6
   1.4. Find out if your array contains number 16 or 26.

2. Create an array of hashes
   Each hash should contain the keys: title, artist, year

   example:
   [
     { title: 'Mad World', artist: 'Gary Jules', year: 1998 },
     { title: 'California Gurls', artist: 'Katy Perry', year: 2000 },
     { title: 'Needle in the Hay', artist: 'Elliott Smith', year: 1997 },
     { title: 'Happy', artist: 'Pharrell Williams', year: 2017 },
     { title: 'Some song', artist: 'Pharrell Williams', year: 2018 }
   ]

   2.1. Display all titles
   2.2. Display all songs from 90'
   2.3. Display artists names which have more then 1 song
   2.4. Display the oldest song

3. Read about other enumerable method.
   Tell in 2 sentences about 1 of them which we didn't cover on this lesson.