

Ruby Association certified Ruby programmer silver version 2.1 prep test

Question1

Which of the following are NOT reserved words in Ruby? (Choose two.)

- A. super
- B. begin
- C. try
- D. goto
- E. alias

Question2

Which of the following is the correct output for the program given below?

```
def foo (a, *b)
  p a
end
foo(1,2,3,4)
```

- A. nil
- B. 1
- C. An error has occurred.
- D. []
- E. [1]

Question3

Which of the following is the correct output for the program given below?

```
puts({"members" => 193, "year" => 2014}.size)
```

- A. 15
- B. 6
- C. 4
- D. 2

Question4

Which of the following is the correct output for the program given below?

```
t = Time.now + (60*60*24)
p t
```

- A. current system time
- B. current system time + a day later

- C. An error has occurred.
- D. nil

Question5

Which variable names are valid as local variables? (Choose three.)

- A. _365
- B. z
- C. 7years
- D. break
- E. latitude

Question6

Which of the following is the correct output for the program given below?

```
(5..8).each_with_index do |val,i|  
  puts "#{i} #{val}"  
end
```

- A. 1 5 B. 0 5 C. 5 1 D. 5 0 E. an error has occurred.
- 2 6 1 6 6 2 6 1
- 3 7 2 7 7 3 7 2
- 4 8 3 8 8 4 8 3

Question7

Which of the following is the correct output for the program given below?

```
p 100.downto(90).select{|x| x%2==0}
```

- A. [100,99,98,97,96,95,94,93,92,91,90]
- B. [90,92,94,96,98,100]
- C. [100,98,96,94,92,90]
- D. []

Question8

Which of the following can be inserted into __ (1) __ in order for the given code to generate the output below? (Choose two.)

```
p [1,1,2,3,5,8].__ (1) __ {|x| x*2}  
[output]  
[2,2,4,6,10,16]
```

- A. compact
- B. collect
- C. map
- D. flatten
- E. join

Question9

Which of the following is the correct output for the program given below ?

```
puts "Ruby on Rails".delete("Rails")
```

- A. An error has occurred.
- B. Ruby on
- C. Rails
- D. uby on
- E. Ruby

Question10

An error occurred while trying to create a string using a here document.
Which of the following solutions are appropriate? (Choose two.)

```
doc = <<EOF
  The quick brown fox
  jumps over the lazy dog
  EOF
```

- A. Replace the first <<EOF with <<-EOF.
- B. Replace the last EOF with >>EOF.
- C. Remove the whitespace in front of the last EOF.
- D. Replace the first <<EOF with << EOF.

Question11

Which of the following can be inserted into `__(1)__` in order for the given code to generate the output below?

```
h = {1=>2, 3=>4}
h.__(1)__
p h    #=>{}

ary = [1, 2]
ary.__(1)__
p ary  #=>[]
```

- A. clear
- B. remove
- C. destroy
- D. empty?

Question12

Which of the following can be inserted into `__(1)__` in order for the given code to generate the output below? (Choose two.)

```
a = [1,2,3,4,5]
p __(1)__      #=>[1,2,3]
```

- A. `a[0..2]`
- B. `a[1..2]`
- C. `a.slice(0,3)`
- D. `a.slice(0...2)`

Question13

Which of the following is the correct output for the program given below?

```
str = "RubyAssociation".chomp
```

- A. `"RubyAssociation\r"`
- B. `"RubyAssociation"`
- C. `"RubyAssociation\r\n"`
- D. `"RubyAssociation\r\n\r\n"`

Question14

Which of the following is the correct output for the program given below ?

```
str = "RubyAssociation\r\n".chop
```

- A. `"RubyAssociation"`
- B. `"RubyAssociation\r"`
- C. `"RubyAssociation\r\n"`
- D. `"RubyAssociation\r\n\r\n"`

Question15

Which of the following is a correct statement about `io.rewind?`

```
File.open("foo.txt","r") do |io|
  puts io.gets
  puts io.read
  io.rewind
  p lines = io.readlines
end
```

- A. Return a string describing this IO object.
- B. Positions ios to the beginning of input, resetting lineno to zero.
- C. Returns true if ios is associated with a terminal device (tty), false otherwise.
- D. Returns an integer representing the numeric file descriptor for ios.

Question16

Which of the following can be inserted into `__(1)__` in order for the given code to generate the output below? (Choose one.)

```
mozart = ["Symphony","Piano Concerto", "Violin Concerto","Horn Concerto","Violin Sonata"]
listened = ["Symphony","Violin Concerto","Horn Concerto"]
p mozart__(1)__listened
[output]
["Piano Concerto","Violin Sonata"]
```

- A. |
- B. &
- C. -
- D. +

Question17

Which of the following is the correct output for the program given below ?

```
odd = [1,3,5]
even = [2,4,6]
num = odd + even
p num.sort
```

- A. nil
- B. []
- C. [1,3,5,2,4,6]
- D. [1,2,3,4,5,6]

Question18

Which of the following string match for the regular expression? (Choose two.)

```
/^[hc].*o$/i
```

- A. Hello
- B. holland
- C. Cello
- D. h35L320

Question19

Which of the following is the correct output for the program given below?

```
Greeting = "Hello Ruby"  
Greeting = "Hi Ruby"  
p Greeting
```

- A. An error occurs since Greeting is a constant.
- B. A warning appears since Greeting is a constant but "Hi Ruby" is displayed
- C. "Hello Ruby" is displayed without warning.
- D. "Hi Ruby" is displayed since Greeting is a constant.

Question20

Which of the following is the correct output for the program given below?

```
p File.join("ruby", "exam", "silver")
```

- A. "./ruby"
- B. "./ruby/exam/silver"
- C. "rubyexamsilver"
- D. "ruby/exam/silver"

Question21

Which of the following is the correct output for the program given below?

```

class Surface
  attr_reader :s
  def initialize(x,y)
    @s = x * y
  end
end

class Volume < Surface
  attr_reader :v
  def initialize(x,y,z)
    super(x,y)
    @v = x * y * z
  end
end

a = Volume.new(2,5,5)
puts "#{a.v},#{a.s}"

```

- A. 50,10
- B. An error has occurred.
- C. 50,50
- D. 10,10

Question22

Which of the following is the correct output for the program given below?

```

string = "test code"
string.slice(0,4)
p string

```

- A. "test"
- B. "test code"
- C. nil
- D. ""

Question23

Which of the following is the correct output for the program given below?

```

puts "ruby".encoding.name

```

- A. UTF-8
- B. An error has occurred.
- C. US-ASCII
- D. ASCII-8BIT

Question24

Which of the following is NOT correct instance method in Hash class.

```
cc = {"nz"=>"New Zealand", "ru"=>"Russia", "ar"=>"Argentina"}
```

- A. p cc.has_key?("nz")
- B. p cc.contain?("nz")
- C. p cc.key?("nz")
- D. p cc.include?("nz")
- E. p cc.member?("nz")

Question25

Which of the following is the correct output for the program given below ?

```
p "Hello there".class
p String.superclass

class Foo; end
class Bar < Foo; end
p Foo.superclass
p Bar.superclass
```

- | | | | | |
|----------|----------|----------|----------|----------|
| A.String | B.Object | C.String | D.String | E.Object |
| Kernel | Module | Module | Object | Object |
| Module | Object | String | Object | Module |
| Module | FooClass | FooClass | Foo | Kernel |

Question26

Which of the following can be inserted into __ (1) __ , __ (2) __ in order for the given code to generate the output below?

```
s = "To be or not to be, that is the question."
hash = Hash.new(0)
s.__(1)__(__(2)__) {|i| hash[i] += 1}
p hash["be"]
```

```
[output]
2
```


- A. (1)match (2)/\w+/
 B. (1)sub (2)/\w+/
 C. (1)scan (2)/\w+/
 D. (1)search (2)/\w+/

Question27

Which is the correct explanation for builtin libraries Integer#chr(encoding) (choose two)

- A.an ArgumentError has occurred if arguments is not given.
- B.nil is returned if wrong encoding name is given.
- C.Returns a string containing the character represented by the int's value according to encoding.
- D.an Error has occurred if wrong encoding name is given.

Question28

Which of the following can be inserted into __ (1) __ , __ (2) __ in order for the given code to generate the error?

```
s = "foo"
__ (1) __
s[4] = ?b
__ (2) __
puts "error"
end
```

- A. __ (1) __ is try, __ (2) __ is catch NameError
- B. __ (1) __ is try, __ (2) __ is catch IndexError
- C. __ (1) __ is begin, __ (2) __ is rescue NameError
- D. __ (1) __ is begin, __ (2) __ is rescue IndexError

Question29

Which of the following is the correct output for the program given below ?

```
ary = []
ary << 1 && false
true || ary << 2
false && ary << 3
false || ary << 4
p ary
```

- A. [1, 4]
- B. [1, 2, 3, 4]
- C. [1]
- D. [1, 2, 3]

Question30

Which of the following is the correct output for the program given below?

```
p "foo" * 2 **2
```

- A. An error has occurred.
- B. "foo4"
- C. "foofoofoofoo"
- D. "foofoo"

Question31

Which of the following is the correct output for the program given below?

```
puts "0123456789".delete("0-58-")
```

- A. 234679
- B. 9
- C. 679
- D. 123458

Question32

Which of the following is the correct output for the program given below?

```
class Object
  def greeting
    print "How are you?\n"
  end
end

[1,2].greeting
```

- A. An error has occurred.
- B. nil
- C. How are you?
- D. [1,2]

Question33

Which of the following can be inserted into `__(1)__` , `__(2)__` in order for the given code to generate the output below?

```
p "100,200,300,400,500".__(1)__.__(2)__
```

```
[output]  
"100\n200\n300\n400\n500"
```

- A. (1)split(",") B. (1)to_a(",") C. (1)split(",") D. (1)concat(",")
(2)join("\n") (2)join("\n") (2)concat("\n") (2)join("\n")

Question34

Which of the following is the correct output for the program given below?

```
numbers = [3,89,40,39,29,10,50,59,69]  
num = numbers.inject do |i,j|  
  i > j ? i : j  
end  
p num
```

- A. 89
B. 40
C. 3
D. [3,89,40,39,29,10,50,59,69]

Question35

Which of the following can be inserted into __(1)__ in order for the given code to generate the output below?

```
class Foo  
  __(1)__ = 0  
  def self.count  
    __(1)__ += 1  
  end  
end  
  
class Bar < Foo  
end  
  
puts Foo.count  
puts Bar.count
```

```
[output]  
1  
2
```

- A. num
B. @num
C. @@num

Question36

Which of the following is the correct output for the program given below?

```
num = 012
puts num
```

- A. 10
- B. 12
- C. 012
- D. nil
- E. An error has occurred.

Question37

Which of the following is the correct output for the program given below?

```
"a".upto("f").to_a
```

- A. []
- B. ["a","b","c","d","e","f"]
- C. nil
- D. An error has occurred.

Question38

Which of the following is the correct output for the program given below?

```
unless false || nil
  print "Hello\n"
end
```

- A. Hello
- B. nil
- C. true
- D. false

Question39

An IOError has occurred while running the program. Which of the following explain is the correct about the reason of the error?

```
File.open("foo.txt") do |io|
  io.write(Time.now.strftime("%Y/%m/%d"))
end
```

- A. Ruby opens foo.txt in write only mode
- B. foo.txt does not existed.
- C. Ruby opens foo.txt in read only mode
- D. Ruby opens foo.txt in read write permission.

Question40

Which of the following is the correct output for the program given below?

```
numbers = (1..20).to_a
p numbers.detect{|x| x % 5 == 0}
```

- A. nil
- B. 10
- C. 5
- D. 20
- E. [5,10,15]

Question41

Which of the following is the correct output for the program given below?

```
puts "#{0xA},#{012}"
```

- A. 10,10
- B. 0xA,012
- C. 20,20
- D. 30,30
- E. 40,40

Question42

Which of the following string match for the regular expression?

```
/[0-9]{3}-[0-9]{4}/
```

- A. 0x000000
- B. 0-93-0-94
- C. 93094
- D. 333-4421

Question43

Which of the following is the correct output for the program given below?

```

class NonasciiError < StandardError
end

File.open("sample.txt") do |io|
  io.each_line do |str|
    begin
      raise(NonasciiError, "non ascii character detected") unless
str.ascii_only?
    rescue => ex
      puts "#{ex.message} : #{str}"
    end
  end
end

[sample.txt]
Ruby Association
ルビー
ЛУЧШИЙ ДРУГ ПРОГРАММИСТА
Ruby on Rails

```

- A. non ascii character detected : ルビー
non ascii character detected : Л У Ч Ш И Й Д Р У Г П Р О Г Р А М М И С Т А
- B. nil
- C. non ascii character detected : Ruby Association
- D. non ascii character detected : Ruby on Rails

Question44

which of the following causes a syntax error?

- A. capital ={:Sweden =>"Stockholm", :Norway=>"Oslo", :Finland=>"Helsinki"}
- B. capital = {Sweden: "Stockholm", Norway: "Oslo", Finland: "Helsinki"}
- C. capital = {"Sweden" = "Stockholm", "Norway" = "Oslo", "Finland" = "Helsinki"}
- D. capital = Hash[:Sweden, "Stockholm", :Norway, "Oslo", :Finland, "Helsinki"]

Question45

Which methods are accept a single line of data from the I/O stream.
(Choose two)

- A.readlines
- B.read
- C.gets
- D.readline
- E.find

Answer and Explanation

Question 1

[Answer]

C, D

The following list shows the reserved words in Ruby2.1.0

| | | | | | |
|-------|----------|--------|--------|--------|--------------|
| BEGIN | class | ensure | nil | self | when |
| END | def | false | not | super | while |
| alias | defined? | for | or | then | yield |
| and | do | if | redo | true | __LINE__ |
| begin | else | in | rescue | | __FILE__ |
| break | elsif | module | retry | unless | __ENCODING__ |
| case | end | next | return | until | |

Question 2

[Answer]

B

If you want to pass in a variable length of arguments, you can use the parameter that prefixed with an asterisk. The parameter allows to represent an indefinite number of arguments(zero or more arguments) as an array.

Question 3

[Answer]

D

Hash#size returns the number of key value pairs in the hash.

Question 4

[Answer]

B

Time#+ method adds some number of seconds to time and returns that value as a new Time object. You also need to be familiar with at least Time#to_s, Time#to_i and Time#mktime methods before taking the exam.

Question 5

[Answer]

A, B, E

break is a reserved word, and cannot be used as variable name.
7years is also incorrect. A local variable name must start with a lowercase US-ASCII letter or a character with the eight bit set.

Question 6

[Answer]

B

A Range object represents an interval that is a group of numbers that includes all integer number between the beginning and the end.
You can use ranges by means of the .. and ... operators.
..(inclusive) ...(exclusive)

e.g.

```
(1..3).to_a          #=> [1,2,3]
(1...3).to_a        #=> [1,2]
("a".."d").to_a     #=> ["a","b","c","d"]
```

Range class includes the Enumerable module, which defines a series of specialized iterators. The Enumerable#each_with_index works like a each method but it calls block with two arguments, the item and its index.

e.g.

```
(1..3).each{|num| print num} #=> 123
```

Hint

If you can't make head or tail of this, check the online tutorials.

rubymonk

<https://rubymonk.com/>

Question 7

[Answer]

C

Integer#downto(min) is the method implemented by integer object (known as an iterator method) works like loops. That iterates from a large number to min number.

Question 8

[Answer]

B, C

Returns a new array with the results of running block once for every element. There's no functional difference between Enumerable#collect and Enumerable#map.

Question 9

[Answer]

D

String#delete

Returns a copy of string with all characters in the intersection of its arguments deleted.

Question10

[Answer]

A, C

When create a string that spreads on several lines. As usual in Ruby, Using a here-document (EOF) is one of the common solutions. You can omit the dash and just write << of the identifier - if you do this, your terminating sequence must be at the begging of the line.

Question 11

[Answer]

A

Removes all elements from self.

Question 12

[Answer]

A, C

You can use ranges by means of the .. and ... operators.

..(inclusive) ...(exclusive)

e.g.

```
p a[0..1] #=> [1,2]
```

```
p a[0...1] #=> [1]
```

```
p a[-2..4] #=> [4.5]
```

```
p a[-1..1] #=> []
```

Question13

[Answer]

B

One way to remove newline characters is the String#chop method, it will remove any trailing newline or carriage return characters "\r\n". String#chomp is often a safer alternative, as it leaves the string unchanged if it doesn't end in a record separator.

e.g.

```
"Ruby\r\n".chop #=> "Ruby"
```

```
"Ruby".chop #=> "Rub"
```

```
"Ruby\r\n".chomp #=> "Ruby"
```

```
"Ruby".chomp #=> "Ruby"
```

Question 14

[Answer]

A

Question 15

[Answer]

B

You also should know how the IO#gets, IO#read and IO#readline methods actually works before exam.

Question 16

[Answer]

C

e.g.

```
ary1 = [1,2,3,4,5]
```

```
ary2 = [3,4,5,6,7]
```

Union

```
p ary1 | ary2 #=>[1,2,3,4,5,6,7]
```

Intersection

```
p ary1 & ary2 #=> [3,4,5]
```

Difference

```
p ary1 - ary2 #=>[1,2]
```

Question 17

[Answer]

D

Question18

[Answer]

A,C

The answers is A and C.

```
/^[hc].*o$/i # a word start with h or c and ends with o. "i" modifier ignore case sensitive when matching text. The regular expression topics tested include basic(very short) textual pattern; how to write regexp literals in this exam.
```

Question19

[Answer]

B

The Ruby doesn't enforce the constancy of constants, it does issue a only warning message if a user change the value of a constant.

Question20

[Answer]

D

File#join

Returns a new string formed by joining the strings using `File::SEPARATOR`.(//)

Question21

[Answer]

A

The `super` has a special meaning in a method overriding. It invokes a methods with the same name as the current one, in it's superclass of the current class.(self)

Question22

[Answer]

B

Generally, method end in exclamation marks indicate that methods will overwrite the object it's called on. Meanwhile, without exclamation marks that makes a new copy of the object.

e.g.

```
a = [1,2,3]
a.map{|num| num*2}
p a #=>[1,2,3]
a.map!{|num| num*2}
p a #=>[2,4,6]
```

Question23

[Answer]

A

UTF-8 is the default character encoding of Ruby 2.0 or later.

Question24

[Answer]

B

These methods returns true if the key is present in hash.

```
Hash#has_key?(key) -> bool
Hash#include?(key) -> bool
Hash#key?(key) -> bool
Hash#member?(key) -> bool
```

Question25

[Answer]

D

`Class#superclass`

Returns the superclass of class, or nil.

`Object#class`

Returns class of object.

When you create a class in Ruby, your class automatically extend Object unless you explicitly specify the superclass.

Question26

[Answer]

C

String#scan returns everything that the Regular expression matches, for each match a result is generated and either added to the result array or passed to the block if a block is given. On the other hand, String#match returns the first match as a MatchData object.

e.g.

```
s = "Well done is better than well said."
s.scan(/\w+/) #=>["Well","done", "is", "better", "than", "well", "said"]
s.scan(/\w+/){|i| print i} #=>Welldoneisbetterthanwellsaid
s.match(/\w+/) #=>#<MatchData "Well">
```

Note that the "\w" means any word character which usually alphanumeric and underscore. You can also write like [a-zA-Z0-9_]

Question27

[Answer]

C, D

Question28

[Answer]

D

You also need to know...

Errors while treating a File object.

How to handle that.

Question29

[Answer]

A

&& operator

if lefthand operand is nil or false, then returns that value. In other word, righthand operand is ignored.

e.g.

```
ary = []
nil && ary << "hello"
p ary #=> []
```

|| operator

First, it evaluate its lefthand operand, and if this is any value other than nil or false, it returns that value. if it's nil or false , it evaluates its righthand operand and returns that value.

e.g.
ary = []
nil || ary << "hello"
p ary #=> ["hello"]

Question30

[Answer]

C

C is correct.

High precedence operation(**) happen before low precedence operation(*)

This is the precedence table from High to low.

!, ~, unary +

**

unary -

*, /, %

+, -

<<, >>

&

|, ^

>, >=, <, <=

<=>, ==, ===, !=, =~, !~

&&

||

.., ...

?, :

modifier-rescue

=, +=, -=, etc.

defined?

not

or, and

modifier-if, modifier-unless, modifier-while, modifier-until

{ } blocks

Question31

[Answer]

C

The answer is C.

#String.delete returns a copy of str with all characters in the intersection of its arguments deleted. The parameter("0-58-") means that remove a 0 to 5, 8 and - from string.

(e.g.)

```
puts "0123456789".delete("0-58-") #=>679
```

```
puts "0123456789".delete("0-58-9") #=>67
```

Question32

[Answer]

C

You can always re-open the class and add or overwrite methods to an existing class.

[Question33](#)

[Answer]

A

[Question34](#)

[Answer]

A

[Question35](#)

[Answer]

C

[Question36](#)

[Answer]

A

[Question37](#)

[Answer]

B

[Question38](#)

[Answer]

A

[Question39](#)

[Answer]

C

[Question40](#)

[Answer]

C

[Question41](#)

[Answer]

A

[Question42](#)

[Answer]

D

[Question43](#)

[Answer]

A

[Question44](#)

[Answer]

C

[Question45](#)

[Answer]

C,D

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