Ruby Language

Chen Wang
wangc1@email.arizona.edu

Xiaomin Zhao
xiaominzhao@email.arizona.edu

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Abstract

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1 Introduction

Introduction goes here.

2 History

Matsumoto was the designer of Ruby, one was finding an good object-oriented language. But She did not like either Python nor Perl. Ruby is still alive and rising.

3 Control Structure

In Ruby language, the control structure is familiar to Java, C, and Perl programmer. Ruby has all common control structures. Such as If-else statement and while loops. However, Java, C, Perl programmer might used to the syntax of Ruby. Since Ruby does not use parentheses, and Ruby uses the key word "end" to end the control block.

```
puts "If-else statement, grade calculator."
grade = gets.chomp.to_i

if grade < 60
puts "fail"
else
puts "grade A"
end
```

Similarly, while loop also uses "end" to stop the control block.

```
puts "please give a number from 1 to 10"
number = gets.chomp.to_i
i = 0
while i < number
print "count " , i
i += 1
end
```

The statement modifiers of Ruby is an useful tool.
For example:

if radiation > 3000
puts "Danger, Will Robinson"
end

Using statement modifier, we have:
puts "Danger, Will Robinson" if radiation > 3000

4 Data Type

4.1 Number Types

There are different kinds of number used in Ruby like integers and floating points. Ruby can handle both integer type and float type. When floating point numbers evaluate with integers, the output of the evaluation will be floating number by default.
Example:
n = 9.88 / 3

The value of n is //////.

4.2 Boolean

Boolean in Ruby is one bit. It can either be true or false. In addition, nil and 0 can also represent true.
Example:
if true
puts "true "
if nil
puts "nil is true "
if 0
puts "0 is true"
end

output:
true true true

4.3 String

String is a sequence of characters that made up with letters or numbers. Strings are defined by enclosing a text within double or single quotes. In one string you can use both double and single quotes. In Ruby the '+' operator cannot be used with strings, however you can use '*' for duplication.
Example:
puts "You are right."
puts 'She said "okay!"'
puts 'It\'s mine.'

output:
You are right.
She said "okay!"
It's mine.

4.4 Array

Array is used to store data, one array can contain different types of data. In the array, data are separated by commas in between each other. The starting index of the array is 0.

Example:
```
array = [1, "two", "three"]
array.each do |i|
puts i
end
```

output:
```
1
two
three
```

5   Subprogram

In ruby, subprograms are call functions. The function only executed when the subprogram is called or invoked. To define a function:
```
def function()
end
```

def means to define or start a function; it is follow by the function name. A subprogram may by called with arguments. Which are the values passed from the calling program. If there are more than one argument, use commas to separate.
Example:
```
def function(argument1, argument2)
end
```

Ruby uses "call by value" convention for passing arguments, the copy of value is passed to the subprogram. And the subprogram may return a value to the caller.
Example:
```
first = "old"
def change(first)
first = "new"
return first;
end
puts first;
```

output:
```
old
```

Inside a function, we can call another function.
Example:
```
def function1()
function2()
end
def function2()
puts "in function1(function 2)"
end
```

We can also make an recursive call by calling the function itself.
Example:

The end of the function "end" is needed.

6   Summary

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References

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