Swinburne University of Technology

2021 Sem 1 Introduction to Programming

Doubtfire Submission

Recursive Factorial

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```ruby
# Recursive Factorial

# Complete the following
def factorial(n)
    if n == 1
      return 1
    else
      return n * factorial(n-1)
      n += 1
    end
end

# Add to the following code to prevent errors for ARGV[0] < 1 and ARGV.length < 1
def main
  if(ARGV[0].to_i < 1 && ARGV.length.to_i< 1)
    puts("Error Occured, wrong argument")
  else
    puts factorial(ARGV[0].to_i)
  end
end

main
```

```
PS D:\COS10009\CODE\LAB10> ruby 10_2.rb 25
15511210043330985984000000
PS D:\COS10009\CODE\LAB10> ruby 10_2.rb 5
120
PS D:\COS10009\CODE\LAB10> ruby 10_2.rb -1
10_2.rb:8:in `factorial': stack level too deep (SystemStackError)
        from 10_2.rb:8:in `factorial'
        from 10_2.rb:8:in `factorial'
        from 10_2.rb:8:in `factorial'
        from 10_2.rb:8:in `factorial'
        from 10_2.rb:8:in `factorial'
        from 10_2.rb:8:in `factorial'
        from 10_2.rb:8:in `factorial'
        from 10_2.rb:8:in `factorial'
         ... 10068 levels...
        from 10_2.rb:8:in `factorial'
        from 10_2.rb:8:in `factorial'
        from 10_2.rb:18:in `main'
        from 10_2.rb:22:in `<main>'
```