Ruby Lab Assessment – 3

Suryakumar P 21MIS1146

```ruby
#Library Catalog:
#Code:


library_catalog = {}


def add_book_to_catalog(catalog)
  puts "Enter the book's title:"
  title = gets.chomp

  puts "Enter the author's name:"
  author = gets.chomp

  puts "Enter the genre:"
  genre = gets.chomp

  puts "Enter the publication year:"
  year = gets.chomp.to_i

  id = catalog.size + 1

  catalog[id] = { title: title, author: author, genre: genre, year: year }
end

def books_published_after(catalog, year)
  catalog.select { |id, book| book[:year] > year }
end

loop do
  add_book_to_catalog(library_catalog)

  puts "Do you want to add another book? (yes/no)"
  answer = gets.chomp.downcase
  break if answer != 'yes'
end

puts "Enter the year to search for books published after:"
search_year = gets.chomp.to_i
```
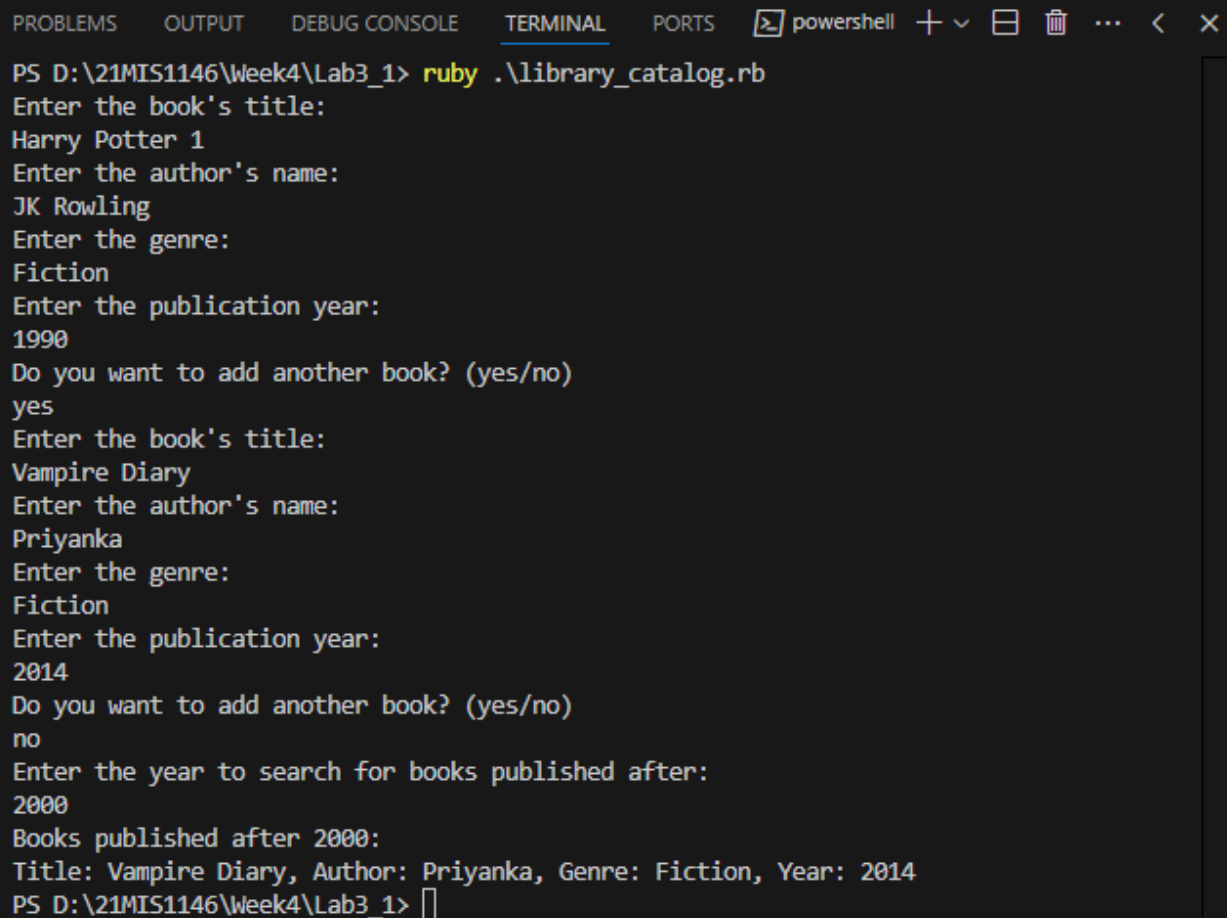
```ruby
searched_books = books_published_after(library_catalog, search_year)

puts "Books published after #{search_year}:"
searched_books.each do |id, book|
  puts "Title: #{book[:title]}, Author: #{book[:author]}, Genre: #{book[:genre]},
Year: #{book[:year]}"
end
```

Output:

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS   powershell + ∨ ⊟ 🗑 ⋯ < ✕

```
PS D:\21MIS1146\Week4\Lab3_1> ruby .\library_catalog.rb
Enter the book's title:
Harry Potter 1
Enter the author's name:
JK Rowling
Enter the genre:
Fiction
Enter the publication year:
1990
Do you want to add another book? (yes/no)
yes
Enter the book's title:
Vampire Diary
Enter the author's name:
Priyanka
Enter the genre:
Fiction
Enter the publication year:
2014
Do you want to add another book? (yes/no)
no
Enter the year to search for books published after:
2000
Books published after 2000:
Title: Vampire Diary, Author: Priyanka, Genre: Fiction, Year: 2014
PS D:\21MIS1146\Week4\Lab3_1>
```

Employee Database Management:

Code:

```ruby
employee_database = {}

def add_employee_to_database(database)
  puts "Enter the employee's name:"
  name = gets.chomp

  puts "Enter the employee's department:"
  department = gets.chomp

  puts "Enter the employee's salary:"
  salary = gets.chomp.to_f

  id = database.size + 1

  database[id] = { name: name, department: department, salary: salary }
end

def highest_paid_employee(database)
  database.max_by { |id, employee| employee[:salary] }
end

loop do
  add_employee_to_database(employee_database)

  puts "Do you want to add another employee? (yes/no)"
  answer = gets.chomp.downcase
  break if answer != 'yes'
end
highest_paid = highest_paid_employee(employee_database)

if highest_paid
  id, details = highest_paid
  puts "The highest-paid employee is:"
  puts "Name: #{details[:name]}"
  puts "Department: #{details[:department]}"
  puts "Salary: Rs.#{details[:salary]}"
else
  puts "No employees found in the database."
end
```

Output:

```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS    >_ powershell  + ∨ ⊟ 🗑 ⋯ < ✕

PS D:\21MIS1146\Week4\Lab3_1> ruby .\employee_data.rb
Enter the employee's name:
Suryakumar
Enter the employee's department:
Developer
Enter the employee's salary:
90000
Do you want to add another employee? (yes/no)
yes
Enter the employee's name:
Priyanka
Enter the employee's department:
Tester
Enter the employee's salary:
80000
Do you want to add another employee? (yes/no)

The highest-paid employee is:
Name: Suryakumar
Department: Developer
Salary: Rs.90000.0
PS D:\21MIS1146\Week4\Lab3_1> []
```

Market Place

Code:

```ruby
marketplace = {}

def add_product_to_marketplace(marketplace)
  puts "Enter the product name:"
  name = gets.chomp

  puts "Enter the product price:"
  price = gets.chomp.to_f

  puts "Enter the product quantity:"
  quantity = gets.chomp.to_i


  id = marketplace.size + 1


  marketplace[id] = { name: name, price: price, quantity: quantity }
end

def total_value_of_products(marketplace)
  marketplace.sum { |id, product| product[:price] * product[:quantity] }
end

loop do
  add_product_to_marketplace(marketplace)

  puts "Do you want to add another product? (yes/no)"
  answer = gets.chomp.downcase
  break if answer != 'yes'
end

total_value = total_value_of_products(marketplace)
puts "The total value of all products in the marketplace is: Rs. #{total_value}"
```

Output:

```
PROBLEMS    OUTPUT    TERMINAL    ...                    powershell  + ∨  ⊟  🗑  ...  <  ✕

PS D:\21MIS1146\Week4\Lab3_1> ruby .\market_place.rb
Enter the product name:
Laptop
Enter the product price:
80000
Enter the product quantity:
10
Do you want to add another product? (yes/no)
yes
Enter the product name:
Mouse
Enter the product price:
600
Enter the product quantity:
50
Do you want to add another product? (yes/no)
yes
Enter the product name:
Mechanical Keyboard
Enter the product price:
2500
Enter the product quantity:
25
Do you want to add another product? (yes/no)
no
The total value of all products in the marketplace is: Rs. 892500.0
PS D:\21MIS1146\Week4\Lab3_1> ▯
```

Music Player:

Code:

```ruby
playlist = {}

def add_song_to_playlist(playlist)
  puts "Enter the song title:"
  title = gets.chomp

  puts "Enter the artist name:"
  artist = gets.chomp

  puts "Enter the genre:"
  genre = gets.chomp

  id = playlist.size + 1

  playlist[id] = { title: title, artist: artist, genre: genre }
end

def shuffle_and_play(playlist)
  shuffled_playlist = playlist.keys.shuffle

  puts "Playing songs in random order:"
  shuffled_playlist.each do |id|
    song = playlist[id]
    puts "Now playing: '#{song[:title]}' by #{song[:artist]} [#{song[:genre]}]"
  end
end

loop do
  add_song_to_playlist(playlist)

  puts "Do you want to add another song? (yes/no)"
  answer = gets.chomp.downcase
  break if answer != 'yes'
end

shuffle_and_play(playlist)
```

Output:

```
PS D:\21MIS1146\Week4\Lab3_1> ruby .\music_player.rb
Enter the song title:
Monster
Enter the artist name:
Justin Beiber
Enter the genre:
Pop
Do you want to add another song? (yes/no)
yes
Enter the song title:
Starboy
Enter the artist name:
Weekend
Enter the genre:
LoFi
Do you want to add another song? (yes/no)
yes
Enter the song title:
Faded
Enter the artist name:
Alan Walker
Enter the genre:
Pop
Do you want to add another song? (yes/no)
no
Playing songs in random order:
Now playing: 'Faded' by Alan Walker [Pop]
Now playing: 'Monster' by Justin Beiber [Pop]
Now playing: 'Starboy' by Weekend [LoFi]
PS D:\21MIS1146\Week4\Lab3_1> []
```