**Encoding**

|  |  |
| --- | --- |
| **Color** | **HexCode** |
| Red | FF0000 |
| Green | 00FF00 |
| Blue | 0000FF |

**Dogs**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Breed** | **Weight** | **Owner** |
| Ruff Stuff | Golden Retriever | 43.25 | Steve |
| Tiny | Daschund | 71.42 | Debra |
| Spike | Poodle | 12.86 | Henry |
| Mallow | Pomeranian | 8.12 | Sati |

**Wavelengths**

|  |  |
| --- | --- |
| **Color** | **Wavelength** |
| Red | 685 |
| Green | 537 |
| Blue | 472 |

1. How many tuples are there in the Dogs relation?

4

1. What is the result of ∏Name,Owner (Dogs)?

|  |  |
| --- | --- |
| **Name** | **Owner** |
| Ruff Stuff | Steve |
| Tiny | Debra |
| Spike | Henry |
| Mallow | Sati |

1. What is the result of σWeight<15 (Dogs)?

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Breed** | **Weight** | **Owner** |
| Spike | Poodle | 12.86 | Henry |
| Mallow | Pomeranian | 8.12 | Sati |

1. What are the colors in the Wavelengths table?

πColor (Wavelengths)

1. Who are the Computer Science instructors?

σdept\_name = "Comp. Sci."(instructor)

1. Which instructors are earning a salary over 80000?

σsalary>80000(instructor)

1. Return the names of instructors in the Physics department who have a salary less than 90000.

Π name ( σ salary<90000 (σ dept\_name = “Physics” (instructor)))

~~( σ~~ ~~salary<90000~~ ~~(σ~~ ~~dept\_name = “Physics”~~ ~~(Π~~ ~~name~~ ~~(instructor))))~~

1. How do you perform a natural join of the Encoding and Wavelengths tables?

ρ JoinedColors(Color,HexCode,Wavelength) (π Encoding.Color, HexCode, Wavelength (σ Encoding.Color = Wavelengths.Color (Encoding x Wavelengths)))