

```

julia> print("=====T-I-T-L-E-
S=====")
=====T-I-T-L-E-
S=====
julia> article_titles[labels .== 1]
33-element Array{String,1}:
"Brock (Pokémon)"
"Bulbasaur"
"Deoxys"
"Eevee"
"Gameplay of Pokémon"
"Hey You, Pikachu!"
"Lapras"
"List of Pokémon characters"
"Meowth"
"Mew (Pokémon)"
"Mewtwo"
"Misty (Pokémon)"
"Pikachu"
"Pokémon"
"Pokémon (anime)"
"Pokémon Black and White"
"Pokémon Diamond and Pearl"
"Pokémon Emerald"
"Pokémon FireRed and LeafGreen"
"Pokémon Gold and Silver"
"Pokémon HeartGold and SoulSilver"
"Pokémon Omega Ruby and Alpha Sapphire"
"Pokémon Platinum"
"Pokémon Red and Blue"
"Pokémon Ruby and Sapphire"
"Pokémon Trading Card Game"
"Pokémon universe"
"Pokémon Yellow"
"Pokémon 4Ever"
"Satoshi Tajiri"
"Team Rocket (anime)"
"Togepi"
"Zapdos"

```

```

julia> print("=====W-O-R-D-
S=====")
=====W-O-R-D-
S=====
julia> dictionary[sortperm(centroids[1], rev=true)]
1000-element Array{String,1}:
"pokemon"
"game"
"games"
"player"

```

"nintendo"
"pikachu"
"ash"
"anime"
"battle"
"series"
"team"
"players"
"ruby"
"sapphire"
"character"
"red"
"video"
"gym"
"mewtwo"
"blue"
"pearl"
"released"
"rocket"
"japan"
"characters"
"release"
"diamond"
"japanese"
"gold"
"boy"
"silver"
"region"
"film"
"best"
"trainer"
:
"temperature"
"temperatures"
"theory"
"thermal"
"thermometers"
"thunderstorm"
"tornado"
"tornadoes"
"transmission"
"transmit"
"transmitted"
"transmitter"
"treaty"
"troposphere"
"tube"
"ultraviolet"
"unesco"
"unicef"

"unrwa"
"uv"
"van"
"vapor"
"velocity"
"vertical"
"voip"
"warm"
"wave"
"wavelength"
"wavelengths"
"waves"
"wet"
"winds"
"wire"
"wto"

```
julia> article_titles[labels .== 2]
55-element Array{String,1}:
"Amplitude modulation"
"Amplitude-shift keying"
"Analog signal"
"Antenna (radio)"
"Asynchronous Transfer Mode"
"Attenuation"
"Audio power amplifier"
"Broadcasting"
"Carrier signal"
"Channel (communications)"
"Communications satellite"
"Data transmission"
"Digital signal"
"Duplex (telecommunications)"
"Electrical telegraph"
"Fiber-optic communication"
"Flag signals"
"Frequency-division multiplexing"
"Frequency modulation"
"Frequency-shift keying"
"GSM"
"Guglielmo Marconi"
"Handset"
"Heliograph"
"Internet access"
"Internet protocol suite"
"Microwave transmission"
"Mobile phone"
"Modulation"
"Multiplexing"
"Multiprotocol Label Switching"
```

"NTSC"
"Optical communication"
"Optical fiber"
"Phase-shift keying"
"Point-to-point (telecommunications)"
"Public switched telephone network"
"Quadrature amplitude modulation"
"Radio"
"Radio wave"
"Receiver (radio)"
"Repeater"
"Semaphore line"
"Smoke signal"
"Telecommunications network"
"Telephone"
"Telephone exchange"
"Telepresence"
"Time-division multiplexing"
"Transmission medium"
"Transmitter"
"Voice over IP"
"W-CDMA (UMTS)"
"Wide area network"
"Wireless"

```
julia> dictionary[sortperm(centroids[2], rev=true)]  
1000-element Array{String,1}:
```

"signal"
"radio"
"frequency"
"telephone"
"digital"
"transmission"
"signals"
"network"
"modulation"
"carrier"
"data"
"communication"
"fiber"
"networks"
"communications"
"channel"
"optical"
"telegraph"
"mobile"
"audio"
"transmitter"
"receiver"
"analog"

```
"systems"  
"waves"  
"line"  
"multiplexing"  
"ip"  
"antenna"  
"wireless"  
"phone"  
"amplitude"  
"internet"  
"division"  
"channels"  
:  
"pearl"  
"pikachu"  
"pissarro"  
"platinum"  
"pokemon"  
"poverty"  
"precipitation"  
"rainfall"  
"refugees"  
"renoir"  
"ruby"  
"salon"  
"scenes"  
"season"  
"secretariat"  
"secretary"  
"soil"  
"southern"  
"species"  
"thermometers"  
"thunderstorm"  
"thunderstorms"  
"tornado"  
"tornadoes"  
"trainer"  
"treaty"  
"tropical"  
"unesco"  
"unicef"  
"unrwa"  
"winds"  
"winter"  
"women"  
"wto"
```

```
julia> article_titles[labels .== 3]  
100-element Array{String,1}:
```

"Acid rain"
"Albedo"
"Anemometer"
"Anticyclone"
"Atmosphere"
"Atmosphere of Earth"
"Atmospheric pressure"
"Baroclinity"
"Barograph"
"Barometer"
"Black ice"
"Ceiling balloon"
"Ceiling projector"
"Ceilometer"
"Chaos theory"
"Climate"
"Cloud"
"Complementary colors"
"Contrast effect"
"Coriolis effect"
"Corona"
"Dark adaptor goggles"
"Desertification"
"Dew point"
"Disdrometer"
"Dust storm"
"Dynamic Host Configuration Protocol"
"Effect of sun angle on climate"
"Erosion"
"Extratropical cyclone"
"Famine"
"Field mill"
"Flood"
"Fog"
"Freezing rain"
:
"Precipitation"
"Pyranometer"
"Radiosonde"
"Rain gauge"
"Sea breeze"
"Severe weather"
"Solarimeter"
"Solar wind"
"Sounding rocket"
"Space weather"
"Stevenson screen"
"Sunlight"
"Sunshine recorder"
"Synoptic scale meteorology"

"Temperature"
"Thermo-hygrograph"
"Thermometer"
"Thunderstorm"
"Tornado"
"Tropical cyclone"
"Troposphere"
"Typhoon"
"Ultraviolet"
"Weather balloon"
"Weather forecasting"
"Weather front"
"Weather map"
"Weather modification"
"Weather radar"
"Wind chill"
"Wind direction"
"Windsock"
"Wind speed"
"Winter storm"

```
julia> dictionary[sortperm(centroids[3], rev=true)]  
1000-element Array{String,1}:
```

"weather"
"wind"
"pressure"
"air"
"temperature"
"ice"
"water"
"surface"
"atmosphere"
"rain"
"earth"
"solar"
"tropical"
"clouds"
"cloud"
"atmospheric"
"radiation"
"precipitation"
"heat"
"storm"
"cyclones"
"winds"
"sun"
"warm"
"scale"
"light"
"cold"

```
"cyclone"
"low"
"height"
"meteorology"
"systems"
"snow"
"areas"
"climate"
:
"artist"
"bandwidth"
"cassatt"
"cubism"
"degas"
"exhibition"
"fm"
"gym"
"headquarters"
"ifc"
"impressionism"
"impressionists"
"manet"
"marconi"
"membership"
"mewtwo"
"mpls"
"multiplexing"
"pikachu"
"pissarro"
"programmes"
"qam"
"salon"
"sapphire"
"secretariat"
"telecommunications"
"trainer"
"treaty"
"unesco"
"unicef"
"unrwa"
"voip"
"wireless"
"wto"
article_titles[labels .== 4]
66-element Array{String,1}:
"Convention on the Rights of Persons with Disabilities"
"Food and Agriculture Organization"
"Headquarters of the United Nations"
"International Bank for Reconstruction and Development"
"International Centre for Settlement of Investment Disputes"
```


"International Civil Aviation Organization"
"International Court of Justice"
"International Development Association"
"International Finance Corporation"
"International Fund for Agricultural Development"
"International Labour Organization"
"International Maritime Organization"
"International Monetary Fund"
"International Organization for Migration"
"International Refugee Organisation"
"International Seabed Authority"
"International Telecommunication Union"
"International Trade Centre"
"International Tribunal for the Law of the Sea"
"Joint United Nations Programme on HIV/AIDS"
"League of Nations"
"Multilateral Investment Guarantee Agency"
"Office of the United Nations High Commissioner for Human Rights"
"Organisation for the Prohibition of Chemical Weapons"
"Organization for Security and Co-operation in Europe"
"Organization of American States"
"Outline of the United Nations"
"Paris Peace Conference, 1919"
"Secretary-General of the United Nations"
"UNESCO"
"UNICEF"
"United Nations"
"United Nations Capital Development Fund"
"United Nations Charter"
"United Nations Conference on Trade and Development"
"United Nations Convention on the Law of the Sea"
"United Nations Convention to Combat Desertification"
"United Nations Development Programme"
"United Nations Economic and Social Council"
"United Nations Environment Programme"
"United Nations Framework Convention on Climate Change"
"United Nations General Assembly"
"United Nations High Commissioner for Refugees"
"United Nations Human Settlements Programme"
"United Nations Industrial Development Organization"
"United Nations International Strategy for Disaster Reduction"
"United Nations Office for Project Services"
"United Nations Office on Drugs and Crime"
"United Nations Population Fund"
"United Nations Relief and Works Agency for Palestine Refugees in the Near East"
"United Nations Secretariat"
"United Nations Security Council"
"United Nations System"
"United Nations System Staff College"

"United Nations Trusteeship Council"
"United Nations University"
"United Nations Volunteers"
"Universal Postal Union"
"UN Women"
"World Bank Group"
"World Food Programme"
"World Health Organization"
"World Intellectual Property Organization"
"World Meteorological Organization"
"World Tourism Organization"
"World Trade Organization"

```
julia> dictionary[sortperm(centroids[4], rev=true)]  
1000-element Array{String,1}:
```

"nations"
"international"
"member"
"council"
"countries"
"general"
"convention"
"assembly"
"organization"
"members"
"security"
"secretary"
"conference"
"rights"
"bank"
"secretariat"
"economic"
"human"
"established"
"organizations"
"programme"
"developing"
"agency"
"global"
"governments"
"parties"
"executive"
"activities"
"trade"
"million"
"peace"
"health"
"women"
"policy"
"programmes"

```
:
"screen"
"signal"
"software"
"sold"
"speeds"
"storm"
"storms"
"sunlight"
"switch"
"thermometers"
"thunderstorm"
"thunderstorms"
"tornado"
"tornadoes"
"transmitter"
"troposphere"
"tube"
"typical"
"ultraviolet"
"user"
"uv"
"vapor"
"velocity"
"versions"
"visible"
"voip"
"wavelength"
"wavelengths"
"waves"
"wet"
"wind"
"winds"
"winter"
"wire"
```

```
julia>
article_titles[labels .== 5]
46-element Array{String,1}:
"A Bar at the Folies-Bergère"
"Alfred Sisley"
"Armand Guillaumin"
"Art Institute of Chicago"
"A Sunday Afternoon on the Island of La Grande Jatte"
"Bal du moulin de la Galette"
"Berthe Morisot"
"Café Guerbois"
"Camille Pissarro"
"Claude Monet"
"Cubism"
```

"Édouard Manet"
"Dutch Golden Age painting"
"Edgar Degas"
"Effets de soir"
"En plein air"
"Eugène Boudin"
"Fauvism"
"Félix Fénéon"
"Frédéric Bazille"
"Georges Seurat"
"Gustave Caillebotte"
"Impasto"
"Impressionism"
"Impressionism in music"
"Impression, Sunrise"
"Jan Steen"
"Johan Jongkind"
"L'Absinthe"
"Landscape painting"
"Louis Leroy"
"Luncheon of the Boating Party"
"Macchiaioli"
"Mary Cassatt"
"Neo-impressionism"
"Paris Street; Rainy Day"
"Paul Cézanne"
"Paul Signac"
"Pierre-Auguste Renoir"
"Portrait"
"Post-Impressionism"
"Salon des Refusés"
"Still life"
"The Child's Bath"
"Wet-on-wet"
"Woman with a Parasol – Madame Monet and Her Son"

```
julia> dictionary[sortperm(centroids[5], rev=true)]  
1000-element Array{String,1}:  
"painting"  
"art"  
"paintings"  
"artists"  
"monet"  
"paris"  
"impressionism"  
"impressionist"  
"manet"  
"salon"  
"impressionists"  
"painters"
```

"renoir"
"van"
"works"
"painted"
"painter"
"french"
"degas"
"exhibition"
"landscape"
"pissarro"
"cezanne"
"des"
"century"
"artist"
"life"
"le"
"style"
"la"
"dutch"
"color"
"group"
"cassatt"
"family"
:
"thermal"
"thermometers"
"thunderstorm"
"thunderstorms"
"tornado"
"tornadoes"
"trainer"
"transfer"
"transmission"
"transmit"
"transmitted"
"transmitter"
"treaty"
"tropical"
"troposphere"
"unesco"
"unicef"
"union"
"units"
"unrwa"
"user"
"users"
"uv"
"vapor"
"velocity"
"voice"

"voip"
"wave"
"wavelength"
"waves"
"winds"
"wire"
"wireless"
"wto"

julia>