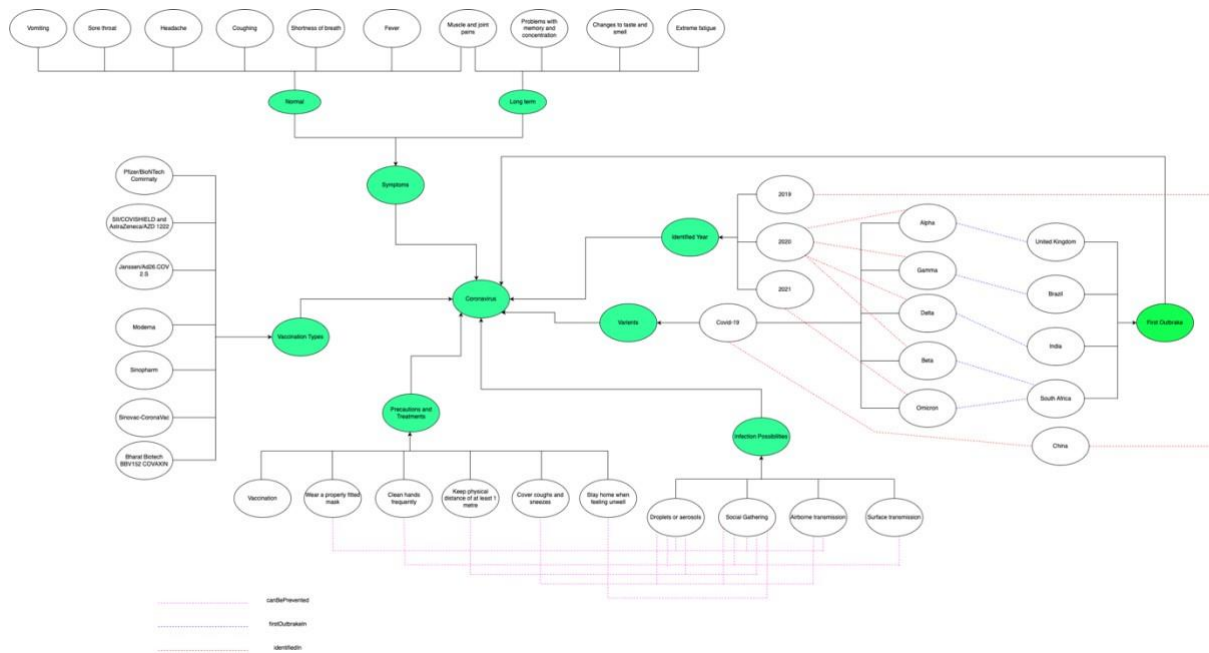1. Scope:

I have covered the following key factors of coronavirus.

- Symptoms – I have classified coronavirus symptoms into two parts.
  General Symptoms – Are appear when someone affected
  Long-term Symptoms – If someone has the covid-19 virus in their body for a long time these symptoms can appear.
- Vaccinations that are invented and guaranteed by WHO.
- Precautions - By following these we can avoid by affecting covid 19.
- Variants of the Covid 19 with the year identified and the first outbreak, Covid 19 first identified in China in 2019. Then in 2020, there are 4 versions of Covid 19 identified. In 2021 Omicron, another Covid 19 variant identified.
- Infection possibilities – How the virus can be spread.

Competency Questions:
1. What are the variants of Covid 19?
2. What are the general symptoms of covid 19?
3. What are the long term symptoms of covid 19?
4. What are the variants of covid 19 that were identified in 2020?
5. What are variants of covid 19 that were identified in South Africa?
6. What are the covid 19 variants that were identified in 2020 in India?
7. What are vaccinations invented and guaranteed by WHO for covid 19?
8. What are the precautions to prevent the spreading of the virus by Droplets and Aerosols?
9. What are the infection possibilities of Coronavirus?
10. What are the precautions to prevent the spreading of the virus through Social Gatherings?

2.

3.

```xml
<rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"

xmlns:rdfs="http://www.w3.org/2000/01/rdf-schema#"

xmlns:owl="http://www.w3.org/2002/07/owl#"

xmlns:dc="http://purl.org/dc/elements/1.1/"

xmlns:covid="http://www.example.com/covid#">


<!-- OWL Header -->
<owl:Ontology rdf:about="http://www.example.com/covid">

<dc:title>Coronavirus Ontology</dc:title>

<dc:description> An ontology to spread the awareness to the general public about, Coronavirus </dc:description>

</owl:Ontology>


<!-- Define property -->
<owl:ObjectProperty rdf:about="http://www.example.com/covid#canBePrevented"/>

<owl:ObjectProperty rdf:about="http://www.example.com/covid#identifiedIn"/>
```

```xml
<owl:ObjectProperty rdf:about="http://www.example.com/covid#firstOutbrakeIn"/>


<!-- OWL Parent Class Definition - Coronavirus -->

<owl:Class rdf:about="http://www.example.com/covid#Coronavirus"> </owl:Class>
```

```
<!-- OWL Class Definition - Coronavirus varients -->

<owl:Class rdf:about "http://www.example.com/covid#Varients">
```

```xml
<rdfs:subClassOf rdf:resource="http://www.example.com/covid#Coronavirus"/>

    <rdfs:label>The Coronavirus varients</rdfs:label>

    <rdfs:comment>The class of all Coronavirus types.</rdfs:comment> </owl:Class>


<!-- OWL Class Definition - Coronavirus vaccine types -->

<owl:Class rdf:about="http://www.example.com/covid#VaccineTypes">

<rdfs:subClassOf rdf:resource="http://www.example.com/covid#Coronavirus"/>

    <rdfs:label>The Vaccine types</rdfs:label>

    <rdfs:comment>The class of all Vaccine types.</rdfs:comment> </owl:Class>


<!-- OWL Class Definition - Symptoms -->

<owl:Class rdf:about="http://www.example.com/covid#Symptoms">

<rdfs:subClassOf rdf:resource="http://www.example.com/covid#Coronavirus"/>

    <rdfs:label> Symptoms </rdfs:label>

    <rdfs:comment>The class of all Symptoms. </rdfs:comment> </owl:Class>


<!-- OWL Class Definition - Infection Posibilities -->

<owl:Class rdf:about="http://www.example.com/covid#InfectionPosibilities">

<rdfs:subClassOf rdf:resource="http://www.example.com/covid#Coronavirus"/>

    <rdfs:label> Infection Posibilities </rdfs:label>

    <rdfs:comment>The class of all Infection Posibilities.</rdfs:comment> </owl:Class>


<!-- OWL Class Definition - Precautions and Treatments -->

<owl:Class rdf:about="http://www.example.com/covid#Precautions">

<rdfs:subClassOf rdf:resource="http://www.example.com/covid#Coronavirus"/>

    <rdfs:label> Precautions and Treatments</rdfs:label>

    <rdfs:comment>The class of all Precautions.</rdfs:comment> </owl:Class>


<!-- OWL Class Definition - Identified Year -->

<owl:Class rdf:about="http://www.example.com/covid#IdentifiedYear">
```

```xml
<rdfs:subClassOf rdf:resource="http://www.example.com/covid#Coronavirus"/>

    <rdfs:label> Identified Year </rdfs:label>

    <rdfs:comment>The class of all coronavirus varients Identified Years.</rdfs:comment>
```

```xml
    </owl:Class>


    <!-- OWL Class Definition - First Outbrake -->

    <owl:Class rdf:about="http://www.example.com/covid#FirstOutbrake">

    <rdfs:subClassOf rdf:resource="http://www.example.com/covid#Coronavirus"/>

        <rdfs:label> First Outbrake </rdfs:label>

        <rdfs:comment>The class of all coronavirus varients Firstly Identified Countries.</rdfs:comment>

    </owl:Class>


    <!-- OWL Sub Classes Definition - Coronavirus varients -->

    <rdf:Description rdf:about="http://www.example.com/covid#Covid19">

    <rdfs:label>Covid-19</rdfs:label>

    <rdf:type rdf:resource="http://www.example.com/covid#Varients"/>

    <covid:firstOutbrakeIn rdf:resource="http://www.example.com/covid#China"/>

    <covid:identifiedIn rdf:resource="http://www.example.com/covid#2019"/> </rdf:Description>


    <rdf:Description rdf:about="http://www.example.com/covid#Alpha">

    <rdfs:label>Alpha</rdfs:label>

    <rdf:type rdf:resource="http://www.example.com/covid#Covid19"/>

    <covid:firstOutbrakeIn rdf:resource="http://www.example.com/covid#UnitedKingdom"/>

    <covid:identifiedIn rdf:resource="http://www.example.com/covid#2020"/> </rdf:Description>


    <rdf:Description rdf:about="http://www.example.com/covid#Gamma">

    <rdfs:label>Gamma</rdfs:label>

    <rdf:type rdf:resource="http://www.example.com/covid#Covid19"/>

    <covid:firstOutbrakeIn rdf:resource="http://www.example.com/covid#Brazil"/>

    <covid:identifiedIn rdf:resource="http://www.example.com/covid#2020"/> </rdf:Description>
```

```xml
<rdf:Description rdf:about="http://www.example.com/covid#Delta">

<rdfs:label>Delta</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#Covid19"/>

<covid:firstOutbrakeIn rdf:resource="http://www.example.com/covid#India"/>

<covid:identifiedIn rdf:resource="http://www.example.com/covid#2020"/> </rdf:Description>


<rdf:Description rdf:about="http://www.example.com/covid#Beta">

<rdfs:label>Beta</rdfs:label>
```

```xml
<rdf:type rdf:resource "http://www.example.com/covid#Covid19"/>

<covid:firstOutbrakeIn rdf:resource "http://www.example.com/covid#SouthAfrica"/>
```

```xml
<covid:identifiedIn rdf:resource="http://www.example.com/covid#2020"/> </rdf:Description>


<rdf:Description rdf:about="http://www.example.com/covid#Omicron">

<rdfs:label>Omicron</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#Covid19"/>

<covid:firstOutbrakeIn rdf:resource="http://www.example.com/covid#SouthAfrica"/>

<covid:identifiedIn rdf:resource="http://www.example.com/covid#2021"/> </rdf:Description>


<!-- OWL Sub Class Definition - Coronavirus vaccine types -->

<rdf:Description rdf:about="http://www.example.com/covid#Pfizer-BioNTechComirnaty">

<rdfs:label>Pfizer/BioNTech Comirnaty</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#VaccineTypes"/> </rdf:Description>


<rdf:Description rdf:about="http://www.example.com/covid#SII-COVISHIELDandAstraZeneca/AZD1222">

<rdfs:label>SII/COVISHIELD and AstraZeneca/AZD 1222</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#VaccineTypes"/> </rdf:Description>


<rdf:Description rdf:about="http://www.example.com/covid#Janssen-Ad26.COV2.S">

<rdfs:label>Janssen/Ad26.COV 2.S</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#VaccineTypes"/> </rdf:Description>


<rdf:Description rdf:about="http://www.example.com/covid#Moderna">

<rdfs:label>Moderna</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#VaccineTypes"/> </rdf:Description>


<rdf:Description rdf:about="http://www.example.com/covid#Sinopharm">

<rdfs:label>Sinopharm</rdfs:label>

<rdf:type rdf:resource="http://www.examle.com/covid#VaccineTypes"/> </rdf:Description>


<rdf:Description rdf:about="http://www.example.com/covid#Sinovac-CoronaVac">
```

<rdfs:label>Sinovac-CoronaVac</rdfs:label>

```xml
<rdf:type rdf:resource="http://www.example.com/covid#VaccineTypes"/> </rdf:Description>


<rdf:Description rdf:about="http://www.example.com/covid#BharatBiotechBBV152COVAXIN">

<rdfs:label>Bharat Biotech BBV152 COVAXIN</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#VaccineTypes"/> </rdf:Description>


<!-- OWL Sub Class Definition - Infection Posibilities -->

<rdf:Description rdf:about="http://www.example.com/covid#DropletsOrAerosols">

<rdfs:label>Droplets or Aerosols</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#InfectionPosibilities"/> </rdf:Description>


<rdf:Description rdf:about="http://www.example.com/covid#SocialGathering">

<rdfs:label>Social Gathering</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#InfectionPosibilities"/> </rdf:Description>


<rdf:Description rdf:about="http://www.example.com/covid#SurfaceTransmission">

<rdfs:label>Surface Transmission</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#InfectionPosibilities"/> </rdf:Description>


<rdf:Description rdf:about="http://www.example.com/covid#AirborneTransmission">

<rdfs:label>Airborne Transmission</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#InfectionPosibilities"/> </rdf:Description>


<!-- OWL Sub Class Definition - Symptoms -->

<rdf:Description rdf:about="http://www.example.com/covid#Normal">

<rdfs:label>General Symptoms</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#Symptoms"/> </rdf:Description>
```
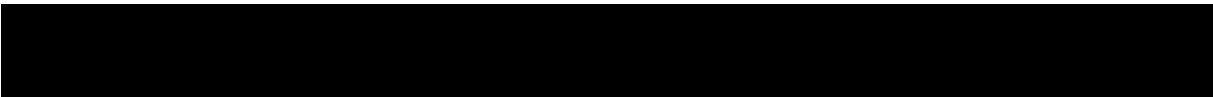
```xml
<rdf:Description rdf:about="http://www.example.com/covid#LongTerm">

<rdfs:label>Long term Symptoms</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#Symptoms"/>

</rdf:Description>
```

<!-- OWL Sub Class Definition - General Symptoms -->

```xml
<rdf:Description rdf:about="http://www.example.com/covid#Headache">

<rdfs:label>Headache</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#Normal"/> </rdf:Description>


<rdf:Description rdf:about="http://www.example.com/covid#SoreThroat">

<rdfs:label>Sore throat</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#Normal"/> </rdf:Description>


<rdf:Description rdf:about="http://www.example.com/covid#Coughing">

<rdfs:label>Coughing</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#Normal"/> </rdf:Description>


<rdf:Description rdf:about="http://www.example.com/covid#ShortnessOfBreath">

<rdfs:label>Shortness of breath</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#Normal"/> </rdf:Description>


<rdf:Description rdf:about="http://www.example.com/covid#Fever">

<rdfs:label>Fever</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#Normal"/> </rdf:Description>


<rdf:Description rdf:about="http://www.example.com/covid#Vomiting">

<rdfs:label>Vomiting</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#Normal"/> </rdf:Description>


<!-- OWL Sub Class Definition - Long term Symptoms -->

<rdf:Description rdf:about="http://www.example.com/covid#MuscleAndJointPains">

<rdfs:label>Muscle and joint pains</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#Normal"/>

<rdf:type rdf:resource="http://www.example.com/covid#LongTerm"/> </rdf:Description>
```

```
<rdf:Description rdf:about="http://www.example.com/covid#ProblemsWithMemoryAndConcentration">
```

<rdfs:label>   </rdfs:label>

```
<rdf:type rdf:resource="http://www.example.com/covid#LongTerm"/> </rdf:Description>


<rdf:Description rdf:about="http://www.example.com/covid#ChangesToTasteAndSmell">

<rdfs:label>Changes to taste and smell</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#LongTerm"/> </rdf:Description>


<rdf:Description rdf:about="http://www.example.com/covid#ExtremeFatigue">

<rdfs:label>Extreme fatigue</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#LongTerm"/> </rdf:Description>


<!-- OWL Sub Class Definition - Precautions and Treatments -->

<rdf:Description rdf:about="http://www.example.com/covid#Vaccination">

<rdfs:label>Vaccination</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#Precautions"/>

<covid:canBePrevented rdf:resource="http://www.example.com/covid#DropletsOrAerosols"/>

<covid:canBePrevented rdf:resource="http://www.example.com/covid#SocialGathering"/>

<covid:canBePrevented rdf:resource="http://www.example.com/covid#SurfaceTransmission"/>

<covid:canBePrevented rdf:resource="http://www.example.com/covid#AirborneTransmission"/>

</rdf:Description>


<rdf:Description rdf:about="http://www.example.com/covid#WearAProperlyFittedMask">

<rdfs:label>Wear a properly fitted mask</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#Precautions"/>

<covid:canBePrevented rdf:resource="http://www.example.com/covid#DropletsOrAerosols"/>

<covid:canBePrevented rdf:resource="http://www.example.com/covid#SocialGathering"/>

<covid:canBePrevented rdf:resource="http://www.example.com/covid#AirborneTransmission"/>

</rdf:Description>
```

```xml
<rdf:Description rdf:about="http://www.example.com/covid#CleanHandsFrequently">

<rdfs:label>Clean hands frequently</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#Precautions"/>

<covid:canBePrevented rdf:resource="http://www.example.com/covid#DropletsOrAerosols"/>

<covid:canBePrevented rdf:resource="http://www.example.com/covid#SocialGathering"/>

<covid:canBePrevented rdf:resource="http://www.example.com/covid#SurfaceTransmission"/>

</rdf:Description>
```

```
<rdf:Description rdf:about "http://www.example.com/covid#KeepPhysicalDistanceOfAtLeast1Metre">
```

```xml
<rdfs:label>Keep physical distance of at least 1 metre</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#Precautions"/>

<covid:canBePrevented rdf:resource="http://www.example.com/covid#DropletsOrAerosols"/>

<covid:canBePrevented rdf:resource="http://www.example.com/covid#SocialGathering"/> </rdf:Description>


<rdf:Description rdf:about="http://www.example.com/covid#CoverCoughsAndSneezes">

<rdfs:label>Cover coughs and sneezes</rdfs:label>

<rdf:type rdf:resource="http://www.examle.com/covid#Precautions"/>

<covid:canBePrevented rdf:resource="http://www.example.com/covid#DropletsOrAerosols"/>

<covid:canBePrevented rdf:resource="http://www.example.com/covid#SocialGathering"/>

<covid:canBePrevented rdf:resource="http://www.example.com/covid#AirborneTransmission"/>

</rdf:Description>


<rdf:Description rdf:about="http://www.example.com/covid#StayHomeWhenFeelingUnwell">

<rdfs:label>Stay home when feeling unwell</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#Precautions"/>

<covid:canBePrevented rdf:resource="http://www.example.com/covid#SocialGathering"/> </rdf:Description>


<!-- OWL Sub Class Definition - First Outbrake -->

<rdf:Description rdf:about="http://www.example.com/covid#China">

<rdfs:label>China</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#FirstOutbrake"/> </rdf:Description>


<rdf:Description rdf:about="http://www.example.com/covid#Brazil">

<rdfs:label>Brazil</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#FirstOutbrake"/> </rdf:Description>


<rdf:Description rdf:about="http://www.example.com/covid#SouthAfrica">
```

```
<rdfs:label>South Africa</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#FirstOutbrake"/> </rdf:Description>


<rdf:Description rdf:about="http://www.example.com/covid#India">

<rdfs:label>India</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#FirstOutbrake"/>
```

```xml
</rdf:Description>

<rdf:Description rdf:about="http://www.example.com/covid#UnitedKingdom">

<rdfs:label>United Kingdom</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#FirstOutbrake"/>

</rdf:Description>


<!-- OWL Sub Class Definition - Identified Year -->

<rdf:Description rdf:about="http://www.example.com/covid#2019">

<rdfs:label>2019</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#IdentifiedYear"/>

</rdf:Description>


<rdf:Description rdf:about="http://www.example.com/covid#2021">

<rdfs:label>2021</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#IdentifiedYear"/>

</rdf:Description>


<rdf:Description rdf:about="http://www.example.com/covid#2020">

<rdfs:label>2020</rdfs:label>

<rdf:type rdf:resource="http://www.example.com/covid#IdentifiedYear"/>

</rdf:Description>


</rdf:RDF>
```

4.

→ What are the variants of Covid 19?

PREFIX co: <http://purl.org/ontology/co/core#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX covid: <http://www.example.com/covid#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

SELECT DISTINCT ?class ?label ?description
WHERE {
 ?class a covid:Covid-19.
 OPTIONAL { ?class rdfs:label ?label}
 OPTIONAL { ?class rdfs:comment ?description}
}
LIMIT 25

class	label	description
1 <http://www.example.com/covid#Alpha>	Alpha	
2 <http://www.example.com/covid#Gamma>	Gamma	
3 <http://www.example.com/covid#Delta>	Delta	
4 <http://www.example.com/covid#Beta>	Beta	
5 <http://www.example.com/covid#Omicron>	Omicron	

→ What are the general symptoms of covid 19?

PREFIX co: <http://purl.org/ontology/co/core#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX covid: <http://www.example.com/covid#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

SELECT DISTINCT ?class ?label ?description
WHERE {
 ?class a covid:Normal
 OPTIONAL { ?class rdfs:label ?label}
 OPTIONAL { ?class rdfs:comment ?description}

```
}
LIMIT 25
```

	class	label	description
1	<http://www.example.com/covid#Headache>	Headache	
2	<http://www.example.com/covid#SoreThroat>	Sore throat	
3	<http://www.example.com/covid#Coughing>	Coughing	
4	<http://www.example.com/covid#ShortnessOfBreath>	Shortness of breath	
5	<http://www.example.com/covid#Fever>	Fever	
6	<http://www.example.com/covid#Vomiting>	Vomiting	
7	<http://www.example.com/covid#MuscleAndJointPains>	Muscle and joint pains	

→ What are the long term symptoms of covid 19?

```
PREFIX co: <http://purl.org/ontology/co/core#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX covid: <http://www.example.com/covid#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

SELECT DISTINCT ?class ?label ?description
WHERE {
  ?class a covid:LongTerm
  OPTIONAL { ?class rdfs:label ?label}
  OPTIONAL { ?class rdfs:comment ?description}
}
LIMIT 25
```

	class	label	description
1	<http://www.example.com/covid#MuscleAndJointPains>	Muscle and joint pains	
2	<http://www.example.com/covid#ProblemsWithMemoryAndConcentration>	Problems with memory and concentration	
3	<http://www.example.com/covid#ChangesToTasteAndSmell>	Changes to taste and smell	
4	<http://www.example.com/covid#ExtremeFatigue>	Extreme fatigue	

→ What are the variants of covid 19 that were identified in 2020?

```
PREFIX co: <http://purl.org/ontology/co/core#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX covid: <http://www.example.com/covid#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>
```

```
SELECT DISTINCT ?class ?label ?description
WHERE {
  ?class a covid:Covid-19.
  ?class covid:identifiedIn covid:2020
OPTIONAL { ?class rdfs:label ?label}
  OPTIONAL { ?class rdfs:comment ?description}
}
LIMIT 25
```

class	label	description
1 <http://www.example.com/covid#Alpha>	Alpha	
2 <http://www.example.com/covid#Gamma>	Gamma	
3 <http://www.example.com/covid#Delta>	Delta	
4 <http://www.example.com/covid#Beta>	Beta	

→ What are variants of covid 19 that were identified in South Africa?

```
PREFIX co: <http://purl.org/ontology/co/core#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX covid: <http://www.example.com/covid#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

SELECT DISTINCT ?class ?label ?description
WHERE {
  ?class a covid:Covid-19.
  ?class covid:firstOutbrakeIn covid:SouthAfrica
  OPTIONAL { ?class rdfs:label ?label}
  OPTIONAL { ?class rdfs:comment ?description}
}
LIMIT 25
```

class	label	description
1 <http://www.example.com/covid#Beta>	Beta	
2 <http://www.example.com/covid#Omicron>	Omicron	

→ What are the covid 19 variants that were identified in 2020 in India?

PREFIX co: <http://purl.org/ontology/co/core#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX covid: <http://www.example.com/covid#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

SELECT DISTINCT ?class ?label ?description
WHERE {
 ?class a covid:Covid-19.
 ?class covid:identifiedIn covid:2020.
 ?class covid:firstOutbrakeIn covid:India
 OPTIONAL { ?class rdfs:label ?label}
 OPTIONAL { ?class rdfs:comment ?description}
}
LIMIT 25

	class	label	description
1	<http://www.example.com/covid#Delta>	Delta	

→ What are vaccinations invented and guaranteed by WHO for covid 19?

PREFIX co: <http://purl.org/ontology/co/core#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX covid: <http://www.example.com/covid#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

SELECT DISTINCT ?class ?label ?description
WHERE {
 ?class a covid:VaccineTypes.
 OPTIONAL { ?class rdfs:label ?label}
 OPTIONAL { ?class rdfs:comment ?description}
}
LIMIT 25

	class	label	description
1	<http://www.example.com/covid#Pfizer-BioNTechComirnaty>	Pfizer/BioNTech Comirnaty	
2	<http://www.example.com/covid#SII-COVISHIELDandAstraZeneca/AZD122...	SII/COVISHIELD and AstraZeneca/AZD 1222	
3	<http://www.example.com/covid#Janssen-Ad26.COV2.S>	Janssen/Ad26.COV 2.S	
4	<http://www.example.com/covid#Moderna>	Moderna	
5	<http://www.example.com/covid#Sinovac-CoronaVac>	Sinovac-CoronaVac	
6	<http://www.example.com/covid#BharatBiotechBBV152COVAXIN>	Bharat Biotech BBV152 COVAXIN	

→ What are the precautions to prevent the spreading of the virus by Droplets and Aerosols?

PREFIX co: <http://purl.org/ontology/co/core#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX covid: <http://www.example.com/covid#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

SELECT DISTINCT ?class ?label ?description
WHERE {
  ?class a covid:Precautions.
  ?class covid:canBePrevented covid:DropletsOrAerosols.
  OPTIONAL { ?class rdfs:label ?label}
  OPTIONAL { ?class rdfs:comment ?description}
}
LIMIT 25

	class	label	description
1	<http://www.example.com/covid#Vaccination>	Vaccination	
2	<http://www.example.com/covid#WearAProperlyFittedMask>	Wear a properly fitted mask	
3	<http://www.example.com/covid#CleanHandsFrequently>	Clean hands frequently	
4	<http://www.example.com/covid#KeepPhysicalDistanceOfAtLeast1Metre>	Keep physical distance of at least 1 metre	

→ What are the infection possibilities of Coronavirus?

PREFIX co: <http://purl.org/ontology/co/core#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX covid: <http://www.example.com/covid#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

SELECT DISTINCT ?class ?label ?description
WHERE {
  ?class a covid:InfectionPosibilities.
  OPTIONAL { ?class rdfs:label ?label}
  OPTIONAL { ?class rdfs:comment ?description}
}
LIMIT 25

	class	label	description
1	<http://www.example.com/covid#DropletsOrAerosols>	Droplets or Aerosols	
2	<http://www.example.com/covid#SocialGathering>	Social Gathering	
3	<http://www.example.com/covid#SurfaceTransmission>	Surface Transmission	
4	<http://www.example.com/covid#AirborneTransmission>	Airborne Transmission	

→ What are the precautions to prevent the spreading of the virus through Social Gatherings?

PREFIX co: <http://purl.org/ontology/co/core#>
PREFIX owl: <http://www.w3.org/2002/07/owl#>
PREFIX covid: <http://www.example.com/covid#>
PREFIX rdfs: <http://www.w3.org/2000/01/rdf-schema#>

SELECT DISTINCT ?class ?label ?description
WHERE {
  ?class a covid:Precautions.
  ?class covid:canBePrevented covid:SocialGathering.
  OPTIONAL { ?class rdfs:label ?label}
  OPTIONAL { ?class rdfs:comment ?description}
}
LIMIT 25

	class	label	description
1	<http://www.example.com/covid#Vaccination>	Vaccination	
2	<http://www.example.com/covid#WearAProperlyFittedMask>	Wear a properly fitted mask	
3	<http://www.example.com/covid#CleanHandsFrequently>	Clean hands frequently	
4	<http://www.example.com/covid#KeepPhysicalDistanceOfAtLeast1Metre>	Keep physical distance of at least 1 metre	
5	<http://www.example.com/covid#StayHomeWhenFeelingUnwell>	Stay home when feeling unwell	