1. Write a function

\[
\text{bool subset( std::vector< unsigned int > s1,}
\text{ std::vector< unsigned int > s2 );}
\]

that returns true if \( s_1 \subseteq s_2 \).

2. Write a function

\[
\text{std::vector< unsigned int >}
\text{ intersection( std::vector< unsigned int > s1,}
\text{ std::vector< unsigned int > s2 );}
\]

that computes the intersection \( v_1 \cap v_2 \) of \( v_1 \) and \( v_2 \).

3. Write a function

\[
\text{std::vector< unsigned int >}
\text{ union( std::vector< unsigned int > s1,}
\text{ std::vector< unsigned int > s2 );}
\]

that computes the union \( s_1 \cup s_2 \) of \( s_1 \) and \( s_2 \).

4. Write a function

\[
\text{std::vector< unsigned int >}
\text{ difference( std::vector< unsigned int > s1,}
\text{ std::vector< unsigned int > s2 );}
\]

that computes the difference \( s_1 \setminus s_2 \) of \( s_1 \) and \( s_2 \).

In case you forgot:
v. size( ) : Length of vector.
v. push_back( i ) : Append i at the end of v.
v. pop_back( ) : Remove last element from vector.
v[i] : i-th element of vector.