**Task 12. Structures**

For any task it is necessary to determine a structure of given mathematical objects and give a concrete example, using the corresponding results of lecture as samples. The answer includes following step for the general and concrete cases:

1. Basis of scale (support)
2. Scheme (algorithm of construction)
3. Echelon of scale
4. Axioms of structure
5. Structure

**Variant 1**

Preordered set.

**Variant 2**

Commutative groupoid.

**Variant 3**

Metric space.

**Variant 4**

Commutative semigroup.

**Variant 5**

Connected topological space.

**Variant 6**

Separated topological space.

**Variant 7**

Linear ordered set.

**Variant 8**

Monoid.

**Variant 9**

Compact topological space.

**Variant 10**

Lattice.

**Variant 11**

Partially ordered set.