Esercizio 1. (Alessandro Martina) Let $\bar{a} = \langle a_i : i \in I \rangle$ be an A-indiscernible sequence and let $J \supseteq I$ with $|J| \leq \kappa$. Then there is an A-indiscernible sequence $\bar{c} = \langle c_i : i \in J \rangle$ such that $c_{\restriction I} = \bar{a}$.

Esercizio 2. (Francesco Sulpizi) Let $p(x) \in S(\mathfrak{U})$ be a global type invariant over A. Let $a, b \models p_{\restriction A}(x)$. Prove that there is a sequence $\bar{c} = \langle c_i : i < \omega \rangle$ such that $a, \bar{c}$ and $b, \bar{c}$ are both sequences of A-indiscernibles.

Esercizio 3. (Matteo Bisi) Let M be an arbitrary model. Let $\varphi(x, y) \in L(M)$, where $|x| = |y|$, be such that $M \subseteq \varphi(\mathfrak{U}, a)$ for some $a \in \mathfrak{U}$. Prove that there is a sequence $\langle a_i : i < \omega \rangle$ in M^x such that $\varphi(a_i, a_j)$ holds for every $i < j < \omega$.

Esercizio 4. (Leonardo Centazzo) Let $I, <_I$ and $J, <_J$ be infinite linear orders. Prove that for every sequence $\bar{a} = \langle a_i : i \in I \rangle$ there is an A-indiscernible sequence $\bar{c} = \langle c_i : i \in J \rangle$ such that $\text{EM-tp}(\bar{a}/A) \supseteq \text{EM-tp}(\bar{c}/A)$.

Esercizio 5. (Roberto Carnevale) Let $\langle c_i : i < \omega \rangle$ be an indiscernible sequence. Prove that there is an indiscernible sequence $\langle d_i : i < \omega \rangle$ such that $d_0, d_1 = c_1, c_0$.

Esercizio 6. (Davide Peccioli) Let $\langle \mathcal{D}_i : i < \omega \rangle$ be an A-indiscernible sequence in $\mathfrak{U}^{\text{eq}}$. Prove that there is a formula $\varphi(x; z) \in L$ and an A-indiscernible sequence $\langle b_i : i < \omega \rangle$ in $\mathfrak{U}^z$ such that $\mathcal{D}_i = \varphi(\mathfrak{U}; b_i)$.

Esercizio 7. (Pietro Giura) Let M be an arbitrary model. Let $\varphi(x, y) \in L(M)$, where $|x| = |y|$. Prove that there is a sequence $\langle a_i : i < \omega \rangle$ in M^x such that

$$\varphi(a_i, a_j) \leftrightarrow \varphi(a_h, a_k)$$

for every $i < j < \omega$ and $h < k < \omega$.

Esercizio 8. (Costanza Furone) Let M be a graph with the property that for every finite $A \subseteq M$ there is a $c \in M$ such that $A \subseteq r(c, \mathfrak{U})$. A star in M is a subgraph whose edges all share a common vertex. We say that a coloring of the edges of M is locally finite if there is a k such that every star has at most k colors. Prove that for every locally finite coloring of the edges of M, there is an infinite monochromatic complete subgraph.

Esercizio 9. (Angela Dosio)