Zadatak 14. Odredi predznak umnoška:

1) $\sin 1 \cdot \cos 1 \cdot \operatorname{tg} 1 \cdot \operatorname{ctg} 1$;

2) $\sin 1 \cdot \cos 2 \cdot \operatorname{tg} 3 \cdot \operatorname{ctg} 4$.

Rješenje. **1)** $0 < 1\,\text{rad} < \frac{\pi}{2}$ (I. kvadrant) $\Longrightarrow$ sve funkcije pozitivne

$$\underbrace{\sin 1}_{>0} \cdot \underbrace{\cos 1}_{>0} \cdot \underbrace{\operatorname{tg} 1}_{>0} \cdot \underbrace{\operatorname{ctg} 1}_{>0} > 0;$$

2) $0 < 1\,\text{rad} < \frac{\pi}{2}$ (I. kvadrant) $\Longrightarrow \sin 1 > 0$,

$\frac{\pi}{2} < 2\,\text{rad} < \pi$ (II. kvadrant) $\Longrightarrow \cos 2 < 0$,

$\frac{\pi}{2} < 3\,\text{rad} < \pi$ (II. kvadrant) $\Longrightarrow \operatorname{tg} 3 < 0$,

$\pi < 4\,\text{rad} < \frac{3\pi}{2}$ (IV. kvadrant) $\Longrightarrow \operatorname{ctg} 4 > 0$.

$$\underbrace{\sin 1}_{>0} \cdot \underbrace{\cos 2}_{<0} \cdot \underbrace{\operatorname{tg} 3}_{<0} \cdot \underbrace{\operatorname{ctg} 4}_{>0} > 0.$$