HASKELL-**classes and instances**

$$\underline{\text{topdecl}} \rightarrow \quad \dots$$

$$| \ \texttt{class} \ \underline{\text{tyconstr}} \ \underline{\text{var}} \ \big[\texttt{where} \ \{\underline{\text{cdecl}}_1; \dots; \underline{\text{cdecl}}_n\}\big], \quad n \geq 1$$

$$| \ \texttt{instance} \ \underline{\text{tyconstr}} \ \underline{\text{instype}} \ \big[\texttt{where} \ \{\underline{\text{idecl}}_1; \dots; \underline{\text{idecl}}_n\}\big]$$

$$\underline{\text{cdecl}} \quad \rightarrow \quad \underline{\text{typedecl}} \mid \underline{\text{fundecl}} \mid \underline{\text{infixdecl}} \mid \underline{\text{var}} \ \underline{\text{rhs}}$$

$$\underline{\text{instype}} \quad \rightarrow \quad (\underline{\text{tyconstr}} \ \underline{\text{var}}_1 \dots \underline{\text{var}}_n), \quad n \geq 0$$
$$\mid [\underline{\text{var}}]$$
$$\mid (\underline{\text{var}}_1 \rightarrow \underline{\text{var}}_2)$$
$$\mid (\underline{\text{var}}_1, \dots, \underline{\text{var}}_n), \quad n \geq 2$$

$$\underline{\text{idecl}} \quad \rightarrow \quad \underline{\text{fundecl}} \mid \underline{\text{var}} \ \underline{\text{rhs}}$$

HASKELL-**contexts**

$$\underline{\text{context}} \;\;\rightarrow\;\; \big(\underline{\text{tyconstr}}_1\underline{\text{var}}_1, \dots, \underline{\text{tyconstr}}_n\underline{\text{var}}_n\big), \quad n \geq 1$$

$$\underline{\text{typedecl}} \;\;\rightarrow\;\; \underline{\text{var}}_1, \dots, \underline{\text{var}}_n \;::\; \big[\underline{\text{context}} \Rightarrow\big] \;\underline{\text{type}}, \quad n \geq 1$$

$$
\begin{aligned}
\underline{\text{topdecl}} \;\;\rightarrow\;\; &\quad \underline{\text{decl}} \\
&\mid \texttt{type} \dots \\
&\mid \texttt{data} \dots \\[1em]
&\mid \texttt{class}\; \big[\underline{\text{context}} \Rightarrow\big]\; \underline{\text{tyconstr}}\; \underline{\text{var}}\; \big[\texttt{where}\dots\big] \\[1em]
&\mid \texttt{instance}\; \big[\underline{\text{context}} \Rightarrow\big]\; \underline{\text{tyconstr}}\; \underline{\text{instype}}\; \big[\texttt{where}\dots\big]
\end{aligned}
$$