Option<T>

<pre>is_some() -> bool</pre>	is_none -> bool	
Some(_) true None false	Some(_) false None true	
unwrap -> T	unwrap_or -> T	$unwrap_or_else -> T$
Some(t) t None panic!()	Some(t) t None default	Some(t) t None default()
expect -> T		
Some(t) t None panic! (msg)		
$\mathbf{map} \boldsymbol{\to} \mathbf{Option} \boldsymbol{<} \mathbf{U} \boldsymbol{>}$	map_or -> U	$map_or_else \rightarrow U$
$\begin{tabular}{lll} \hline map -> Option < U > \\ \hline Some(t) & Some(f(t)) \\ None & None \\ \hline \end{tabular}$	$egin{array}{cccccccccccccccccccccccccccccccccccc$	$\frac{\text{map_or_else} \rightarrow \mathbf{U}}{\text{Some(t)} f(\mathbf{t})}$ $\text{None} \frac{default()}{}$
Some(t) $Some(f(t))$	$\frac{-}{\text{Some(t)}} \frac{f(t)}{f(t)}$	Some(t) $f(t)$
Some(t) $Some(f(t))$ None None	Some(t) $f(t)$ None $default$	Some(t) $f(t)$
Some(t) Some($f(t)$) None None and -> Option $<$ U $>$ Some(_) $optb$	Some(t) $f(t)$ None $default$ and then -> Option $<$ U $>$ Some(t) $f(t)$	Some(t) $f(t)$

Result<T, E>

is_ok -> bool	is_err -> bool	$ok \rightarrow Option < T >$	$\operatorname{err} ext{-> Option} < T >$
Ok(_) true Err(_) false	Ok(_) false Err(_) true	Ok(t) t Err(_) None	Ok(_) None Err(e) e
$\color{red}{\text{map}} \rightarrow \text{Result} {<} \textbf{U}, \textbf{E} {>}$	${\color{red}{\rm map_err}} \rightarrow {\rm Result}{<}{\rm T}, {\rm F}{>}$		
$\begin{array}{ccc} \hline \texttt{Ok(t)} & \texttt{Ok(} $	$egin{array}{ccc} {\sf Ok(t)} & {\sf Ok(t)} \ {\sf Err(e)} & {\sf Err(\emph{f(e)})} \end{array}$		
and -> Result $<$ U, E $>$	and_then -> Result <u, e=""></u,>		
Ok(_)	$egin{array}{lll} {\sf Ok(t)} & & & op(t) \ {\sf Err(e)} & & {\sf Err(e)} \end{array}$		
or -> Result <t, f=""></t,>	$or_else \rightarrow Result < T, F >$		
$egin{array}{ccc} {\sf Ok(t)} & {\sf Ok(t)} \ {\sf Err(_)} & {\it res} \end{array}$	$egin{array}{lll} { extstyle Ok(t)} & { extstyle Ok(t)} \ { extstyle Err(e)} & { extstyle op(e)} \ \end{array}$		
unwrap -> T	unwrap_or -> T	$unwrap_or_else \rightarrow T$	
Ok(t) t Err(e) panic!(e)	Ok(t) t Err(_) optb	Ok(t) t Err(e) optb(e)	
$unwrap_err \rightarrow E$	$unwrap_err_or \rightarrow E$	unwrap_err_or_else -> E	
Ok(t) panic!(t) Err(e) e			
expect -> T	$\operatorname{expect}_{\operatorname{err}} ext{->} \operatorname{E}$		
Ok(t) t Err(e) panic!(msg, e)			