




What the user Explicitly Provides	STATUS OF WHAT THE COMPILER WILL GENERATE FOR US 					
	Default Constructor	Destructor	Copy Constructor	Copy Assignment Operator	Move Constructor	Move Assignment Operator
User Provides Nothing	Default Provided	Default Provided	Default Provided	Default Provided	Default Provided	Default Provided
Any Constructor	NOT PROVIDED	Default Provided	Default Provided	Default Provided	Default Provided	Default Provided
Default Constructor	USER PROVIDED	Default Provided	Default Provided	Default Provided	Default Provided	Default Provided
Destructor	Default Provided	USER PROVIDED	Default Provided	Default Provided	NOT PROVIDED	NOT PROVIDED
Copy Constructor	NOT PROVIDED	Default Provided	USER PROVIDED	Default Provided	NOT PROVIDED	NOT PROVIDED
Copy Assignment Operator	Default Provided	Default Provided	Default Provided	USER PROVIDED	NOT PROVIDED	NOT PROVIDED
Move Constructor	NOT PROVIDED	Default Provided	DELETED	DELETED	USER PROVIDED	NOT PROVIDED
Move Assignment Operator	Default Provided	Default Provided	DELETED	DELETED	NOT PROVIDED	USER PROVIDED


“Default Provided” → Compiler will generate the function. “DELETED” → the functions still participate in overload resolution; but it is a compile time error to make calls to them. “NOT PROVIDED” → Compiler will not generate these functions (so the functions are NOT part of overload resolution). – please report errors, omissions, improvements to: shankar swamy. [CppLanguageDefaultSpecialFunctionsHinnatChart.docx]

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	Default Constructor	Destructor	Copy Constructor	Copy Assignment Operator	Move Constructor	Move Assignment Operator
User Provides Nothing	Default Provided	Default Provided	Default Provided	Default Provided	Default Provided	Default Provided
Any Constructor	(1) NOT PROVIDED	Default Provided	Default Provided	Default Provided	Default Provided	Default Provided
Default Constructor	USER PROVIDED	Default Provided	Default Provided	Default Provided	Default Provided	Default Provided
Destructor	Default Provided	USER PROVIDED	Default Provided	Default Provided	NOT PROVIDED	NOT PROVIDED
(2) Copy Constructor	NOT PROVIDED	Default Provided	USER PROVIDED	Default Provided	NOT PROVIDED	NOT PROVIDED
(2) Copy Assignment Operator	Default Provided	Default Provided	Default Provided	USER PROVIDED	NOT PROVIDED	NOT PROVIDED
(2) Move Constructor	NOT PROVIDED	Default Provided	DELETED	DELETED	USER PROVIDED	NOT PROVIDED
(2) Move Assignment Operator	Default Provided	Default Provided	DELETED	DELETED	NOT PROVIDED	USER PROVIDED

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Assignment to ...	value categories to be assigned to the category on the first column 					
	lvalue	const lvalue	lvalue&	const lvalue&	rvalue	rvalue&&
lvalue =	YES (1)	YES (2)	YES (3)	YES (4)	YES (5)	YES (6)
const lvalue =	YES (7)	YES (8)	YES (9)	YES (10)	YES (11)	YES (12)
lvalue& =	YES (13)	NO (14)	YES (15)	NO (16)	NO (17)	NO (18)
const lvalue& =	YES (19)	YES (20)	YES (21)	YES (22)	YES (23)	YES (24)
rvalue =	YES (25)	YES (26)	YES (27)	YES (28)	YES (29)	YES (30)
rvalue&& =	YES (31) <i>via std::move(...)</i>	YES (32) <i>remove const and std::move(...)</i>	YES (33) <i>via std::move(...)</i>	YES (34) <i>remove const and std::move(...)</i>	YES (35)	YES (36)

What the user Explicitly Provides	value categories to be assigned to the category on the first column →					
	Default Constructor	Destructor	Copy Constructor	Copy Assignment Operator	Move Constructor	Move Assignment Operator
(2) Copy Constructor	NOT PROVIDED	Default Provided	USER PROVIDED	Default Provided	NOT PROVIDED	NOT PROVIDED
(2) Copy Assignment Operator	Default Provided	Default Provided	Default Provided	USER PROVIDED	NOT PROVIDED	NOT PROVIDED
(2) Move Constructor	NOT PROVIDED	Default Provided	DELETED	DELETED	USER PROVIDED	NOT PROVIDED
(2) Move Assignment Operator	Default Provided	Default Provided	DELETED	DELETED	NOT PROVIDED	USER PROVIDED

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Default Constructor	USER PROVIDED	Default Provided	Default Provided	Default Provided	Default Provided	Default Provided
Destructor	Default Provided	USER PROVIDED	Default Provided	Default Provided	NOT PROVIDED	NOT PROVIDED
Copy Constructor	NOT PROVIDED	Default Provided	USER PROVIDED	Default Provided	NOT PROVIDED	NOT PROVIDED
Copy Assignment Operator	Default Provided	Default Provided	Default Provided	USER PROVIDED	NOT PROVIDED	NOT PROVIDED
Move Constructor	NOT PROVIDED	Default Provided	DELETED	DELETED	USER PROVIDED	NOT PROVIDED
Move Assignment Operator	Default Provided	Default Provided	DELETED	DELETED	NOT PROVIDED	USER PROVIDED