

Example 2: Type Definitions

1. What is the definition of the type `string` in VHDL? If I have a variable of type `string` called `my_string`, is `my_string(0)` a valid reference? Use excerpts from the definition of the language as provided in package `STANDARD` to justify your answer.
2. Which data types have native support for reading and writing from files using the `TEXTIO` package?
3. What is the difference between the ASCII representation of an 1164 value and the internal representation used by VHDL implementations? How does this affect the reading and writing of vectors of type `std_logic_vector` from files using the `TEXTIO` package?
4. These questions concern the definition of the 1164 type system.
 - i. Where can you find the definition of the the operation of addition on variables of type 1164?
 - ii. How is the result of an addition operation on two single bit variables of type `std_logic` computed?
 - iii. What is the value of an addition operations if one of the variables has a value of “-“ and the second has a value of “Z”?