1.
Pair one: I would expect the one with shorter values to run faster. In the context of ICS45C VM, an int is 32 bits and reference to a memory address is 64 bits, so I expect the non-const one to be faster since it needs to copy a shorter value.

Pair two: It depends on the length of string. If the length of string is shorter than memory address, it is faster to copy the string than a reference to its memory address. For long strings, passing a reference is much faster.

2.
Pair one: Similar to the first question, the one with shorter length is going to use less memory. In ICS45C VM, an int is 32 bits and reference to a memory address is 64 bits, so the non-const function will use less memory.

Pair two: It still depends on the length of string. Short strings do not take much memory and will take up less space than reference to memory address; while long strings will use much more memory than the reference to a memory address.