Things to watch out for when working with sml
Suppose we have written the following ML program in file sum.sml to compute the sum of elements of a list.

Note that the line numbers are here for your convenience, they are not actually in the file.

1. (* sumlist gets a list of numbers and
2.    returns the sum of its elements.
3. *)
4. fun sumlist([],)=0;
5.   | sumlist(h::t)= h + sumlist t;

Now, let's load the file in SML and test it:

-use sum.sml;
stdin:1.5-2.7 Error: unbound structure: sum in path sum.sml

Oops! The file name is a string, so we must use "". Next try:

-use "sum.sml";
[opening sum.sml]
sum.sml:1.1-5.36 Error: unclosed comment
val it = () : unit

Oops! There is an error in my "sum.sml" file. I forgot to close the comment in line 5. Let's fix it and try again:

1. (* sumlist gets a list of numbers and
2.    returns the sum of its elements.
3. *)
4. fun sumlist([],)=0;
5.   | sumlist(h::t)= h + sumlist t;

-use "sum.sml";
[opening sum.sml]
sum.sml:4.1-4.18 Warning: match nonexhaustive
val sumlist = fn : 'a list -> int
sum.sml:5.3 Error: syntax error: replacing BAR with EQUALOP

Not AGAIN! This time I have an extra ";" at the 4th line. So, naturally, it ignores my definition for the rest of the function. Let's remove the extra ";" and try again.

1. (* sumlist gets a list of numbers and
2.    returns the sum of its elements.
3. *)
4. fun sumlist([],)=0
5.   | sumlist(h::t)= h + sumlist t;
- use "sum.sml";
[opening sum.sml]

val sumlist = fn : int list -> int

val it = () : unit

Great! Finally! So now I can call this function to test it!

- Sumlist [];
standard: 29.1-29.8 Error: unbound variable or constructor: Sumlist

What's wrong? Oh, SML is case sensitive, I should have typed "sumlist" instead of "Sumlist". Try again:

- sumlist([],);
val it = 0 : int

- sumlist([1,2,7]);
val it = 10 : int

- sumlist([-3,2,1]);
standard: 21.10 Error: expression begins with infix identifier "-"
standard: 21.9-21.16 Error: operator and operand don't agree [literal]
  operator domain: 'Z * 'Z
  operand: int
  in expression:
    - 3

What's wrong with the last expression? Negative numbers must be represented by "-" symbol!

- sumlist([-3,2,1]);
val it = 0 : int

- sumlist [2.0, 2.2, 3.0];
standard: 40.1-40.24 Error: operator and operand don't agree [tycon mismatch]
  operator domain: int list
  operand: real list
  in expression:
    sumlist (2.0 2.2 3.0 0) nil
GC #0.0.0.0.1.15: (0 ms)

What's wrong? Ahh, right: the argument must be an int list. But what's the last weirdest GC... error message?

It's not an error message. You will get this message once in a while. When you least expect it. :) It says that ML is doing garbage collection.