--- Day 7: No Space Left On Device ---

You can hear uccelli chirping and raindrops hitting leaves as the
expedition proceeds. Occasionally, you can even hear much louder sounds in
the distance; how big do gli animali get out here, comunque?

The dispositivo the Elves gave you has problemi with more than just its
communication system. You try to run una sistema update:

```
$ system-update --please --pretty-please-with-sugar-on-top
Error: No space left on device
```

Forse you can delete some files to make space for l'aggiornamento?

You browse around the filesystem valutare the situation and save the
resulting terminal output (your puzzle input). For example:

```
$ cd /
$ ls
dir a
14848514 b.txt
8504156 c.dat
dir d
$ cd a
$ ls
dir e
29116 f
2557 g
62596 h.lst
$ cd e
$ ls
584 i
$ cd ..
$ cd ..
$ cd d
$ ls
4060174 j
8033020 d.log
5626152 d.ext
7214296 k
```

The filesystem consists of a tree of files (plain data) and directories
(which can contain other directories or files). The outermost directory is
called `/`. You can navigate around the filesystem, moving into or out of
directories and listing the contents of the directory you're currently in.

Within the terminal output, lines that begin with `$` are commands you
executed, very much like some modern computers:

-   `cd` means change directory. This changes which directory is the current
    directory, but the specific result depends on the argument:
    -   `cd x` moves in one level: it looks in the current directory for the
        directory named `x` and makes it the current directory.
    -   `cd ..` moves out one level: it finds the directory that contains
        the current directory, then makes that directory the current
        directory.
    -   `cd /` switches the current directory to the outermost directory, `/`.
-   `ls` means list. It prints out all of the files and directories
    immediately contained by the current directory:
    -   `123 abc` means that the current directory contains a file named `abc`
        with size `123`.

- `dir xyz` means that the current directory contains a directory
  named `xyz`.

Given the commands and output in the example above, you can determine that
the filesystem looks visually like this:

```
- / (dir)
  - a (dir)
    - e (dir)
      - i (file, size=584)
    - f (file, size=29116)
    - g (file, size=2557)
    - h.lst (file, size=62596)
  - b.txt (file, size=14848514)
  - c.dat (file, size=8504156)
  - d (dir)
    - j (file, size=4060174)
    - d.log (file, size=8033020)
    - d.ext (file, size=5626152)
    - k (file, size=7214296)
```

Here, there are four directories: `/` (the outermost directory), `a` and `d`
(which are in `/`), and `e` (which is in `a`). These directories also contain
files of various sizes.

Since the disk is full, your first step should probably be to find
directories that are good candidates for deletion. To do this, you need to
determine the total size of each directory. The total size of a directory
is the sum of the sizes of the files it contains, directly or indirectly.
(Directories themselves do not count as having any intrinsic size.)

The total sizes of the directories above can be found as follows:

- The total size of directory `e` is 584 because it contains a single file
  `i` of size 584 and no other directories.
- The directory `a` has total size 94853 because it contains files `f` (size
  29116), `g` (size 2557), and `h.lst` (size 62596), plus file `i` indirectly
  (`a` contains `e` which contains `i`).
- Directory `d` has total size 24933642.
- As the outermost directory, `/` contains every file. Its total size is
  48381165, the sum of the size of every file.

To begin, find all of the directories with a total size of at most 100000,
then calculate the sum of their total sizes. In the example above, these
directories are `a` and `e`; the sum of their total sizes is `95437` (94853 +
584). (As in this example, this process can count files more than once!)

Find all of the directories with a total size of at most 100000. What is
the sum of the total sizes of those directories?

To begin, get your puzzle input.

Answer: [   ] [Submit]

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