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Which integers are sums of seven cubes?

In 1851, Carl Jacobi made the experimental observation that all integers are sums of seven non-negative cubes, with precisely 17 exceptions, the largest of which is 454. Building on previous work by Maillet, Landau, Dickson, Linnik, Watson, Bombieri, Ramaré, Elkies and many others, we complete the proof of Jacobi's observation.