In[1]:=
```
symbolic = {a, b, c, d, e, f, g, h};

(*digit = 1-based, from the end*)
```

In[179]:=
```
Coef[length_, digit_] := Mod[Binomial[98 + digit, 99], 10]
```

In[176]:=
```
Digit[digit_, list_] :=
 With[{length = Length[list]},
 Mod[Total[Table[Coef[length, i - length + digit] * list[[i]], {i, length - digit + 1, length}]], 10]]
```

In[164]:=
```
Digit[4, symbolic]
```

Out[164]=
$$e + 100\,f + 5050\,g + 171\,700\,h$$

In[165]:=
```
Digit[3, symbolic]
```

Out[165]=
$$f + 100\,g + 5050\,h$$

In[181]:=
```
real = IntegerDigits[
  59 775 675 999 083 203 307 460 316 227 239 534 744 196 788 252 810 996 056 267 313 158 415 747 954 523 514 ⋱.
   450 220 630 777 434 694 464 147 859 581 700 598 049 220 155 996 171 361 500 188 470 573 584 309 935 232 ⋱.
   530 483 361 639 265 796 594 588 423 475 377 664 322 506 657 596 419 440 442 622 029 687 655 170 723 364 ⋱.
   080 344 399 753 761 821 561 397 734 310 612 361 082 481 766 777 063 437 812 858 875 338 922 334 089 288 ⋱.
   117 184 890 884 363 091 417 446 200 960 308 625 363 997 089 394 409 607 215 164 553 325 263 177 638 484 ⋱.
   872 071 167 142 885 096 660 905 078 567 883 997 320 316 971 939 560 903 959 842 723 210 017 598 426 984 ⋱.
   179 521 683 810 628 956 529 638 813 221 927 079 630 736 290 924 180 307 474 765 551 066 444 888 559 156 ⋱.
   901 159 193 212 333 302 170 502 387 548 724 998 221 103 376 187 508 278 234 838 899 434 485 116 047 387 ⋱.
   731 626 309 521 488 967 864 391]
```

Out[181]=
```
{5, 9, 7, 7, 5, 6, 7, 5, 9, 9, 9, 0, 8, 3, 2, 0, 3, 3, 0, 7, 4, 6, 0, 3, 1, 6, 2, 2, 7, 2, 3, 9,
  5, 3, 4, 7, 4, 4, 1, 9, 6, 7, 8, 8, 2, 5, 2, 8, 1, 0, 9, 9, 6, 0, 5, 6, 2, 6, 7, 3, 1, 3, 1,
  5, 8, 4, 1, 5, 7, 4, 7, 9, 5, 4, 5, 2, 3, 5, 1, 4, 4, 5, 0, 2, 2, 0, 6, 3, 0, 7, 7, 7, 4, 3,
  4, 6, 9, 4, 4, 6, 4, 1, 4, 7, 8, 5, 9, 5, 8, 1, 7, 0, 0, 5, 9, 8, 0, 4, 9, 2, 2, 0, 1, 5, 5,
  9, 9, 6, 1, 7, 1, 3, 6, 1, 5, 0, 0, 1, 8, 8, 4, 7, 0, 5, 7, 3, 5, 8, 4, 3, 0, 9, 9, 3, 5, 2,
  3, 2, 5, 3, 0, 4, 8, 3, 3, 6, 1, 6, 3, 9, 2, 6, 5, 7, 9, 6, 5, 9, 4, 5, 8, 8, 4, 2, 3, 4, 7,
  5, 3, 7, 7, 6, 6, 4, 3, 2, 2, 5, 0, 6, 6, 5, 7, 5, 9, 6, 4, 1, 9, 4, 4, 0, 4, 4, 2, 6, 2, 2,
  0, 2, 9, 6, 8, 7, 6, 5, 5, 1, 7, 0, 7, 2, 3, 3, 6, 4, 0, 8, 0, 3, 4, 4, 3, 9, 9, 7, 5, 3, 7,
  6, 1, 8, 2, 1, 5, 6, 1, 3, 9, 7, 7, 3, 4, 3, 1, 0, 6, 1, 2, 3, 6, 1, 0, 8, 2, 4, 8, 1, 7, 6,
  6, 7, 7, 7, 0, 6, 3, 4, 3, 7, 8, 1, 2, 8, 5, 8, 8, 7, 5, 3, 3, 8, 9, 2, 2, 3, 3, 4, 0, 8, 9,
  2, 8, 8, 1, 1, 7, 1, 8, 4, 8, 9, 0, 8, 8, 4, 3, 6, 3, 0, 9, 1, 4, 1, 7, 4, 4, 6, 2, 0, 0, 9,
  6, 0, 3, 0, 8, 6, 2, 5, 3, 6, 3, 9, 9, 7, 0, 8, 9, 3, 9, 4, 4, 0, 9, 6, 0, 7, 2, 1, 5, 1, 6,
  4, 5, 5, 3, 3, 2, 5, 2, 6, 3, 1, 7, 7, 6, 3, 8, 4, 8, 4, 8, 7, 2, 0, 7, 1, 1, 6, 7, 1, 4, 2,
  8, 8, 5, 0, 9, 6, 6, 6, 0, 9, 0, 5, 0, 7, 8, 5, 6, 7, 8, 8, 3, 9, 9, 7, 3, 2, 0, 3, 1, 6, 9,
  7, 1, 9, 3, 9, 5, 6, 0, 9, 0, 3, 9, 5, 9, 8, 4, 2, 7, 2, 3, 2, 1, 0, 0, 1, 7, 5, 9, 8, 4, 2,
  6, 9, 8, 4, 1, 7, 9, 5, 2, 1, 6, 8, 3, 8, 1, 0, 6, 2, 8, 9, 5, 6, 5, 2, 9, 6, 3, 8, 8, 1, 3,
  2, 2, 1, 9, 2, 7, 0, 7, 9, 6, 3, 0, 7, 3, 6, 2, 9, 0, 9, 2, 4, 1, 8, 0, 3, 0, 7, 4, 7, 4, 7,
  6, 5, 5, 5, 1, 0, 6, 6, 4, 4, 4, 8, 8, 8, 5, 5, 9, 1, 5, 6, 9, 0, 1, 1, 5, 9, 1, 9, 3, 2, 1,
  2, 3, 3, 3, 3, 0, 2, 1, 7, 0, 5, 0, 2, 3, 8, 7, 5, 4, 8, 7, 2, 4, 9, 9, 8, 2, 2, 1, 1, 0,
  3, 3, 7, 6, 1, 8, 7, 5, 0, 8, 2, 7, 8, 2, 3, 4, 8, 3, 8, 8, 9, 9, 4, 3, 4, 4, 8, 5, 1, 1,
  6, 0, 4, 7, 3, 8, 7, 7, 3, 1, 6, 2, 6, 3, 0, 9, 5, 2, 1, 4, 8, 8, 9, 6, 7, 8, 6, 4, 3, 9, 1}
```

In[190]:=
```
Table[Digit[i, real], {i, 8, 1, -1}]
```

Out[190]=
```
{6, 2, 3, 1, 4, 3, 9, 1}
```

In[184]:=
```
offset = 5 977 567;
```

In[189]:=
```
Table[Digit[i, Catenate[ConstantArray[real, 10 000]]],
 {i, Length[real] * 10 000 - offset, Length[real] * 10 000 - offset - 7, -1}]
```

Out[189]=
```
{5, 3, 2, 0, 1, 6, 0, 2}
```