

1) Write the production rules for all palindromes that contain only digits. A palindrome is a string that reads the same forwards and backwards. For example, 1, 121, 333, 12321, 456654, 78999987, and 12345654321 would be palindromes.

PRODUCTION RULES:

2) Given the following production rules, Which of the following are examples of numbers that are legal in the grammar defined by the rules. These are the rules for Python floating point values.

```
floatnumber ::= pointfloat | exponentfloat
pointfloat  ::= [intpart] fraction | intpart .
exponentfloat ::= (intpart | pointfloat) exponent
intpart     ::= <digit>+
fraction    ::= . <digit>+
exponent    ::= (e | E) [+ | -] digit+
digit ::= 0 | 1 | ... | 9
```

- (i) 12345.
- (ii) 12e
- (iii) .5E-12