|  |  |  |  |
| --- | --- | --- | --- |
|  | Infix Expression: | A+B\*C-D/E+F-G |  |
| 1 | A | EMPTY | A |
| 2 | + | + | A |
| 3 | B | + | AB |
| 4 | \* | +\* | AB |
| 5 | C | +\* | ABC |
| 6 | - | - | ABC\*+ |
| 7 | D | - | ABC\*+D |
| 8 | / | -/ | ABC\*+D |
| 9 | E | -/ | ABC\*+DE |
| 10 | + | + | ABC\*+DE/- |
| 11 | F | + | ABC\*+DE/-F |
| 12 | - | - | ABC\*+DE/-F+ |
| 13 | G | - | ABC\*+DE/-F+G |

|  |  |  |  |
| --- | --- | --- | --- |
|  | Postfix Expression: | ABC\*+DE/-F+G- |  |

|  |  |  |  |
| --- | --- | --- | --- |
|  | Infix Expression : | A+B\*C+D |  |
| S No. | Scanned character | Stack | Postfix |
| 1 | A | EMPTY | A |
| 2 | + | + | A |
| 3 | B | + | B |
| 4 | \* | +\* | AB |
| 5 | C | +\* | ABC |
| 6 | + | + | ABC\*+ |
| 7 | D | + | ABC\*+D |

|  |  |  |  |
| --- | --- | --- | --- |
|  | Postfix Expression: | ABC\*+D+ |  |

|  |  |  |  |
| --- | --- | --- | --- |
|  | Infix Expression: | A-B+C/D\*E-F+G |  |
| S No. | Scanned Character | Stack | Postfix |
| 1 | A | EMPTY | A |
| 2 | - | - | A |
| 3 | B | - | AB |
| 4 | + | + | AB- |
| 5 | C | + | AB-C |
| 6 | / | +/ | AB-C |
| 7 | D | +/ | AB-CD |
| 8 | \* | \* | AB-CD/+ |
| 9 | E | \* | AB-CD/+E |
| 10 | - | - | AB-CD/+E\* |
| 11 | F | - | AB-CD/+E\*F |
| 12 | + | + | AB-CD/+E\*F- |
| 13 | G | + | AB-CD/+E\*F-G |

|  |  |  |  |
| --- | --- | --- | --- |
|  | Postfix Expression: | AB-CD/+E\*F-G+ |  |

|  |  |  |
| --- | --- | --- |
| Postfix Expression: ABC\*+DE/-F+G- | | |
| Steps | Character Scanned | Infix |
| 1 | A | A |
| 2 | B | AB |
| 3 | C | ABC |
| 4 | \* | AB\*C |
| 5 | + | A+B\*C |
| 6 | D | A+B\*CD |
| 7 | E | A+B\*CDE |
| 8 | / | A+B\*CD/E |
| 9 | - | A+B\*C-D/E |
| 10 | F | A+B\*C-D/EF |
| 11 | + | A+B\*C-D/E+F |
| 12 | G | A+B\*C-D/E+FG |
| 13 | - | A+B\*C-D/E+F-G |

|  |
| --- |
| Infix Expression : A+B\*C-D/E+F-G |

|  |
| --- |
| Postfix Expression : ABC\*+D+ |

|  |  |  |
| --- | --- | --- |
| Steps | Character Scanned | Infix |
| 1 | A | A |
| 2 | B | AB |
| 3 | C | ABC |
| 4 | \* | AB\*C |
| 5 | + | A+B\*C |
| 6 | D | A+B\*CD |
| 7 | + | A+B\*C+D |

|  |
| --- |
| Infix Expression : A+B\*C+D |

|  |  |  |  |
| --- | --- | --- | --- |
|  | Postfix Expression: | AB-CD/+E\*F-G+ |  |

|  |  |  |
| --- | --- | --- |
| Step | Character Scanned | Infix |
| 1 | A | A |
| 2 | B | AB |
| 3 | - | A-B |
| 4 | C | A-BC |
| 5 | D | A-BCD |
| 6 | / | A-BC/D |
| 7 | + | A-B+C/D |
| 8 | E | A-B+C/DE |
| 9 | \* | A-B+C/D\*E |
| 10 | F | A-B+C/D\*EF |
| 11 | - | A-B+C/D\*E-F |
| 12 | G | A-B+C/D\*E-FG |
| 13 | + | A-B+C/D\*E-F+G |

|  |
| --- |
| Infix Expression : A-B+C/D\*E-F+G |

|  |  |  |  |
| --- | --- | --- | --- |
| Infix Expression : | A – B \* C + D / E + F - G | & Reverse : | G – F + E / D + C \* B - A |
| S No. | Character Scanned | Stack | Prefix |
| 1 | G | EMPTY | G |
| 2 | - | - | G |
| 3 | F | - | FG |
| 4 | + | -+ | FG |
| 5 | E | -+ | EFG |
| 6 | / | / | -+EFG |
| 7 | D | / | D-+EFG |
| 8 | + | /+ | D-+EFG |
| 9 | C | /+ | CD-+EFG |
| 10 | \* | /\* | +CD-+EFG |
| 11 | B | /\* | B+CD-+EFG |
| 12 | - | /\*- | B+CD-+EFG |
| 13 | A | /\*- | AB+CD-+EFG |

|  |  |  |  |
| --- | --- | --- | --- |
| Prefix Expression : |  |  | /\*-AB+CD-+EFG |

|  |  |  |
| --- | --- | --- |
| Prefix Expression : |  | /\*-AB+CD-+EFG |
| Steps | Character Scannned | Infix |
| 1 | G | G |
| 2 | F | GF |
| 3 | E | GFE |
| 4 | + | GF+E |
| 5 | - | G-F+E |
| 6 | D | G-F+ED |
| 7 | C | G-F+EDC |
| 8 | + | G-F+ED+C |
| 9 | B | G-F+ED+CB |
| 10 | A | G-F+ED+CBA |
| 11 | - | G-F+ED+CB-A |
| 12 | \* | G-F+ED+C\*B-A |
| 13 | / | G-F+E/D+C\*B-A |

|  |
| --- |
| After Reversing the expression will get Infix Expression: A – B \* C + D / E + F - G |