



AutoCAD[®] Self-paced Learning Modules

AutoLISP

Content Module

Contents and Learning Outcomes

Module 1 CONTENTS and INDEX

Module 2 GETTING STARTED

1. Describe the AutoLISP evaluator and explain its purpose.
2. Explain the use of parentheses in an AutoLISP program.
3. Define the AutoLISP terms ' T ' or ' nil '.
4. Describe how to create and edit text files.
5. Explain how to configure AutoCAD.

Module 3 PROGRAM LAYOUT

6. Describe a typical AutoLISP program and list its three main components.
7. Describe how parentheses, spaces, upper and lowercase characters, and semicolon are used in AutoLISP programs.
8. Describe when and why indenting is used in an AutoLISP program.

Module 4 FUNCTIONS

9. Describe an AutoLISP variable and explain its naming convention.
10. Define the AutoLISP data types Integer, Real and String.
11. Describe and apply the SETQ function.
12. Describe how to load AutoLISP programs by using the LOAD function and the APPLOAD program.
13. Explain how to run AutoLISP programs after they are loaded.
14. Describe and apply the DEFUN function.
15. Describe how to create your own AutoCAD commands using AutoLISP.

Module 5 MATH - PART 1

16. Define and apply the math functions +, -, \, * and PI.
17. Define a radian and explain how AutoLISP uses them.

Module 6 USER INPUT - PART 1

18. Describe string control characters used by AutoLISP.
19. Describe and apply the function PRINC.
20. Describe and apply the function GETINT.
21. Describe and apply the function GETREAL.
22. Describe and apply the function GETSTRING.

Module 7 COMPETENCY TEST No. 1

23. To successfully write, debug, and run an AutoLISP program without the aid of an answer key.

Module 8 CONTROLLING THE SCREEN

24. Describe and apply the function GRAPHSCR.
25. Describe and apply the function TEXTSCR.
26. Describe and apply the function TEXTPAGE.
27. Describe and apply the function REDRAW.

Module 9 USING COMMANDS AND SYSTEM VARIABLES

28. Describe and apply the COMMAND function.
29. Explain the use of AutoCAD System Variables in AutoLISP.
30. Describe and apply the SETVAR function.
31. Describe and apply the GETVAR function.

Module 10 LISTS - PART 1

32. Define the terms list, element, atom, nested list, 2D point, and 3D point.
33. Describe and apply the function LIST.
34. Describe and apply the functions CAR, CDR, CADR, and CADDR.

Module 11 USER INPUT - PART 2

35. Describe and apply the GETPOINT function.
36. Describe and apply the GETCORNER function.
37. Describe and apply the GETDIST function.
38. Describe and apply the GETANGLE function.

Module 12 MEASUREMENT

39. Describe and apply the DISTANCE function.
40. Describe and apply the ANGLE function.
41. Describe and apply the POLAR function.
42. Describe and apply the INTERS function

Module 13 COMPETENCY TEST No. 2

43. To successfully write, debug, and run an AutoLISP program without the aid of an answer key.

Module 14 MATH - PART 2

44. Define binary, decimal, hexadecimal, and octal numbering systems and explain how they are used in the ASCII code.
45. Describe and apply the =, /=, >, <, >=, <=, 1+, 1-, and REM functions.

Module 15 LOOPING - PART 1

- 46. Describe and apply the WHILE function.
- 47. Describe and apply the COND function.

Module 16 LOOPING - PART 2

- 48. Describe and apply the IF function.
- 49. Describe and apply the PROGN function.

Module 17 TESTING - PART 1

- 50. Describe and apply the NOT function.
- 51. Describe and apply the NULL function.
- 52. Describe and apply the EQ function.
- 53. Describe and apply the EQUAL function.
- 54. Describe and apply the EVAL function.

Module 18 USER INPUT - PART 3

- 55. Describe and apply the INITGET function.
- 56. Describe and apply the GETKEYWORD function.
- 57. Describe and apply the PROMPT function.

Module 19 COMPETENCY TEST No. 3

- 58. To successfully write, debug, and run an AutoLISP program without the aid of an answer key.

Module 20 STRINGS

- 59. Describe and apply the STRCASE function.
- 60. Describe and apply the STRCAT function.
- 61. Describe and apply the STRLEN function.
- 62. Describe and apply the SUBSTR function.

Module 21 CONVERSION - PART 1

- 63. Describe and apply the ATOF function.
- 64. Describe and apply the ATOI function.
- 65. Describe and apply the ITOA function.
- 66. Describe and apply the RTOS function.
- 67. Describe and apply the DISTOF function.
- 68. Describe and apply the FIX function.
- 69. Describe and apply the FLOAT function.
- 70. Describe and apply the ANGTOF function.
- 71. Describe and apply the ANGTOF function.

Module 22 USING TIME AND DATE

72. Describe and apply the system variable DATE.
73. Describe and apply the system variable CDATE.
74. Describe and apply the system variables TDCREATE, TDINDWG, TDUPDATE, and TDUSRTIMER.

Module 23 MATH - PART 3

75. Describe and apply the SIN, COS, and TAN functions.
76. Describe and apply the EXPT and SQRT functions.
77. Describe and apply the MAX and MIN functions.

Module 24 LOOPING - PART 3

78. Describe and apply the REPEAT function.
79. Describe and apply the OSNAP function.

Module 25 COMPETENCY TEST No. 4

- 80.. To successfully write, debug, and run an AutoLISP program without the aid of an answer key.

Module 26 LISTS - PART 2

81. Describe and apply the QUOTE function.
82. Describe and apply the LENGTH function.
83. Describe and apply the LAST function.
84. Describe and apply the APPEND function.
85. Describe and apply the MEMBER function.

Module 27 SELECTION SETS - PART 1

86. Describe selection sets and explain how they are used in AutoLISP programs.
87. Describe and apply the SSGET function.
88. Describe and apply the SSLENGTH function.
89. Describe and apply the SSNAME function.

Module 28 OBJECT ACCESS - PART 1

90. Define a main object and a sub-object.
91. Describe and apply the ENTSEL function.
92. Describe and apply the ENTNEXT function.
93. Describe and apply the ENTLAST function.
94. Describe and apply the ENTGET function.
95. Describe and apply the CONS function.
96. Describe and apply the ASSOC function.
97. Describe and apply the SUBST function.
98. Describe and apply the ENTMOD function.
99. Describe and apply the ENTDEL function.

Module 29 SYMBOL TABLE ACCESS - PART 1

- 100. Describe and apply the TBLNEXT function.
- 101. Describe and apply the TBLSEARCH function.

Module 30 COMPETENCY TEST No. 5

- 102. To successfully write, debug, and run an AutoLISP program without the aid of an answer key.

Module 31 FINAL PRETEST MODULE

- 103. To successfully write, debug, and run a AutoLISP programs without the aid of an answer key.