

In this version, you start 500 feet above the lunar surface and control the burn rate in 1-second bursts. Each unit of fuel slows your descent by 1 ft/sec. The maximum thrust of your engine is 30 ft/sec/sec.

# Basic Computer Games, Microcomputer Edition

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Rocket was written by Eric Peter at DEC.

ROCKET  
CREATIVE COMPUTING MORRISTOWN, NEW JERSEY

## LUNAR LANDING SIMULATION

DO YOU WANT INSTRUCTIONS (YES OR NO)? YES

YOU ARE LANDING ON THE MOON AND HAVE TAKEN OVER MANUAL CONTROL 500 FEET ABOVE A GOOD LANDING SPOT. YOU HAVE A DOWNWARD VELOCITY OF 50 FT/SEC. 120 UNITS OF FUEL REMAIN.

HERE ARE THE RULES THAT GOVERN YOUR SPACE VEHICLE:

- (1) AFTER EACH SECOND, THE HEIGHT, VELOCITY, AND REMAINING FUEL WILL BE REPORTED.
- (2) AFTER THE REPORT, A 'T' WILL BE TYPED. ENTER THE NUMBER OF UNITS OF FUEL YOU WISH TO BURN DURING THE NEXT SECOND. EACH UNIT OF FUEL WILL SLOW YOUR DESCENT BY 1 FT/SEC.
- (3) THE MAXIMUM THRUST OF YOUR ENGINE IS 30 FT/SEC/SEC OR 30 UNITS OF FUEL PER SECOND.
- (4) WHEN YOU CONTACT THE LUNAR SURFACE, YOUR DESCENT ENGINE WILL AUTOMATICALLY CUT OFF AND YOU WILL BE GIVEN A REPORT OF YOUR LANDING SPEED AND REMAINING FUEL.
- (5) IF YOU RUN OUT OF FUEL, THE 'T' WILL NO LONGER APPEAR, BUT YOUR SECOND-BY-SECOND REPORT WILL CONTINUE UNTIL YOU CONTACT THE LUNAR SURFACE.

BEGINNING LANDING PROCEDURE.....

GOOD L U C K ! ! !

SEC	FEET	SPEED	FUEL	PLOT OF DISTANCE
0	500	50	120	I
1	447.5	55	120	I
2	390	60	120	I
3	327.5	65	120	I
4	260	70	120	I
5	192.5	65	110	I
6	127.5	65	105	I
7	72.5	45	80	I
8	37.5	25	55	I
9	22.5	5	30	I
10	18.5	3	23	I
11	16.5	1	16	I
12	15	2	12	I
13	12	4	9	I
14	7	6	6	I
15	1.5	5	0	I

0	500	50	120	I
1	447.5	55	120	I
2	390	60	120	I
3	327.5	65	120	I
4	260	70	120	I
5	192.5	65	110	I
6	127.5	65	105	I
7	72.5	45	80	I
8	37.5	25	55	I
9	22.5	5	30	I
10	18.5	3	23	I
11	16.5	1	16	I
12	15	2	12	I
13	12	4	9	I
14	7	6	6	I

\*\*\*\* OUT OF FUEL\*\*\*\*

15 1.5 5 0 I\*

\*\*\*\* CONTACT \*\*\*\*

TOUCHDOWN AT 15.2649 SECONDS.

LANDING VELOCITY = 6.32456 FEET/SEC.

0 UNITS OF FUEL REMAINING.

\*\*\*\*\* SORRY, BUT YOU BLEW IT!!!!

APPROPRIATE CONDOLENCES WILL BE SENT TO YOUR NEXT OF KIN.

ANOTHER MISSION? NO THANKS!

CONTROL OUT.

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10 PRINT TAB(33);"ROCKET"
20 PRINT TAB(15);"CREATIVE COMPUTING MORRISTOWN, NEW JERSEY"
30 PRINT:PRINT:PRINT
70 PRINT "LUNAR LANDING SIMULATION"
80 PRINT "-----":PRINT
100 INPUT "DO YOU WANT INSTRUCTIONS (YES OR NO)";A$
110 IF A$="NO" THEN 390
160 PRINT
200 PRINT "YOU ARE LANDING ON THE MOON AND HAVE TAKEN OVER MANUAL"
210 PRINT "CONTROL 500 FEET ABOVE A GOOD LANDING SPOT. YOU HAVE A"
220 PRINT "DOWNWARD VELOCITY OF 50 FT/SEC. 120 UNITS OF FUEL REMAIN."
225 PRINT
230 PRINT "HERE ARE THE RULES THAT GOVERN YOUR SPACE VEHICLE:"
240 PRINT "(1) AFTER EACH SECOND, THE HEIGHT, VELOCITY, AND REMAINING"
250 PRINT "FUEL WILL BE REPORTED."
260 PRINT "(2) AFTER THE REPORT, A 'T' WILL BE TYPED. ENTER THE"
270 PRINT "NUMBER OF UNITS OF FUEL YOU WISH TO BURN DURING THE"
280 PRINT "NEXT SECOND. EACH UNIT OF FUEL WILL SLOW YOUR DESCENT"
290 PRINT "BY 1 FT/SEC."
310 PRINT "(3) THE MAXIMUM THRUST OF YOUR ENGINE IS 30 FT/SEC/SEC OR"
320 PRINT "30 UNITS OF FUEL PER SECOND."
330 PRINT "(4) WHEN YOU CONTACT THE LUNAR SURFACE, YOUR DESCENT ENGINE"
340 PRINT "WILL AUTOMATICALLY CUT OFF AND YOU WILL BE GIVEN A"
350 PRINT "REPORT OF YOUR LANDING SPEED AND REMAINING FUEL."
360 PRINT "(5) IF YOU RUN OUT OF FUEL, THE 'T' WILL NO LONGER APPEAR,"
370 PRINT "BUT YOUR SECOND-BY-SECOND REPORT WILL CONTINUE UNTIL"
380 PRINT "YOU CONTACT THE LUNAR SURFACE."
390 PRINT "BEGINNING LANDING PROCEDURE.....":PRINT
400 PRINT "GOOD L U C K ! ! !"
420 PRINT:PRINT
430 PRINT "SEC FEET SPEED FUEL PLOT OF DISTANCE"
450 PRINT
455 T=0:H=500:V=50:F=120
490 PRINT T;TAB(4);H;TAB(12);V;TAB(20);F;TAB(29);"I";TAB(H/12+29);" "
500 INPUT T
510 IF B<0 THEN 650
520 IF B>30 THEN B=30
530 IF B>F THEN B=F
540 V1=V-B+5
560 F=F-B
570 H=H-.5*(V+V1)
580 IF H<=0 THEN 670
590 T=T+1
600 V=V1
610 IF F>0 THEN 490
615 IF B=0 THEN 640
620 PRINT "**** OUT OF FUEL****"
640 PRINT T;TAB(4);H;TAB(12);V;TAB(20);F;TAB(29);"I";TAB(H/12+29);" "
650 B=0
660 GOTO 540
670 PRINT "**** CONTACT ****"
680 H=H+.5*(V+V1)
690 IF B=5 THEN 720
700 D=(-V+SQR(V*V+H*(10-2*B)))/(5-B)
710 GOTO 730
720 D=H/V
730 V1=V+(5-B)*D
740 PRINT "TOUCHDOWN AT";T+D;"SECONDS."
770 PRINT "LANDING VELOCITY =";V1;"FEET/SEC."
780 PRINT F;"UNITS OF FUEL REMAINING."
790 IF V1<0 THEN 810
800 PRINT "CONGRATULATIONS! A PERFECT LANDING!"
805 PRINT "YOUR LICENSE WILL BE RENEWED.....LATER"
810 IF ABS(V1)<2 THEN 840
820 PRINT "***** SORRY, BUT YOU BLEW IT!!!!"
830 PRINT "APPROPRIATE CONDOLENCES WILL BE SENT TO YOUR NEXT OF KIN."
840 PRINT:PRINT:PRINT
850 INPUT "ANOTHER MISSION";A$
860 IF A$="YES" THEN 390
870 PRINT:PRINT "CONTROL OUT.":PRINT
999 END

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