**Tower of Hanoi Problem using Recursion**

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| --- | --- |
| #include <stdio.h> | |
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| --- | --- |
| void towers(int, char, char, char); | |
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| --- | --- |
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| --- | --- |
| int main() | |
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| --- | --- |
| { | |
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| --- | --- |
| int num; | |
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|  |  |
| --- | --- |
| printf("Enter the number of disks : "); | |
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|  |  |
| --- | --- |
| scanf("%d", &num); | |
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| --- | --- |
| printf("The sequence of moves involved in the Tower of Hanoi are :\n"); | |
|  |

|  |  |
| --- | --- |
| towers(num, 'A', 'C', 'B'); | |
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| --- | --- |
| return 0; | |
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| --- | --- |
| } | |
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| --- | --- |
| void towers(int num, char frompeg, char topeg, char auxpeg) | |
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|  |  |
| --- | --- |
| { | |
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| --- | --- |
| if (num == 1) | |
|  |

|  |  |
| --- | --- |
| { | |
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|  |  |
| --- | --- |
| printf("\n Move disk 1 from peg %c to peg %c", frompeg, topeg); | |
|  |

|  |  |
| --- | --- |
| return; | |
|  |

|  |  |
| --- | --- |
| } | |
|  |

|  |  |
| --- | --- |
| towers(num - 1, frompeg, auxpeg, topeg); | |
|  |

|  |  |
| --- | --- |
| printf("\n Move disk %d from peg %c to peg %c", num, frompeg, topeg); | |
|  |

|  |  |
| --- | --- |
| towers(num - 1, auxpeg, topeg, frompeg); | |
|  |

|  |
| --- |
| } |

OUTPUT :

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| --- |
| Enter the number of disks : 3 |
| The sequence of moves involved in the Tower of Hanoi are : | |

|  |
| --- |
|  |
| Move disk 1 from peg A to peg C | |

|  |
| --- |
| Move disk 2 from peg A to peg B |
| Move disk 1 from peg C to peg B |

|  |
| --- |
| Move disk 3 from peg A to peg C |
| Move disk 1 from peg B to peg A |

|  |
| --- |
| Move disk 2 from peg B to peg C |
| Move disk 1 from peg A to peg C |