Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
00 doors			http://rosettacode.org//wiki/100_doors	http://rosettacode.org//wiki/100_doors
4 game			http://rosettacode.org//wiki/24_game	http://rosettacode.org//wiki/24_game
4 game/Solve			http://rosettacode.org//wiki/24_game/Solve	http://rosettacode.org//wiki/24_game/Solve
billion names of God the integer			http://rosettacode.org//wiki/9_billion_names_of_God_the_integer	http://rosettacode.org//wiki/9_billion_names_of_God_the_integer
9 Bottles of Beer			http://rosettacode.org//wiki/99_Bottles_of_Beer	http://rosettacode.org//wiki/99_Bottles_of_Beer
+B			http://rosettacode.org//wiki/A%2BB	http://rosettacode.org//wiki/A%2BB
BC Problem			http://rosettacode.org//wiki/ABC_Problem	http://rosettacode.org//wiki/ABC_Problem
bstract type			http://rosettacode.org//wiki/Abstract_type	http://rosettacode.org//wiki/Abstract_type
bundant, deficient and perfect number			http://rosettacode.org/wiki/Abundant_deficient_and_perfect_number_classifications	http://rosettacode.org/wiki/Abundant,_deficient_and_perfect_number_classification
ccumulator factory			http://rosettacode.org//wiki/Accumulator_factory	http://rosettacode.org//wiki/Accumulator_factory
ckermann function			http://rosettacode.org//wiki/Ackermann_function	http://rosettacode.org//wiki/Ackermann_function
ctive Directory/Connect			http://rosettacode.org//wiki/Active_Directory/Connect	http://rosettacode.org//wiki/Active_Directory/Connect
ctive Directory/Search for a user			http://rosettacode.org//wiki/Active_Directory/Search_for_a_user	http://rosettacode.org//wiki/Active_Directory/Search_for_a_user
ctive object			http://rosettacode.org//wiki/Active_object	http://rosettacode.org//wiki/Active_object
dd a variable to a class instance at run	time		http://rosettacode.org//wiki/Add a variable to a class instance at runtime	http://rosettacode.org//wiki/Add a variable to a class instance at runtime
ddress of a variable			http://rosettacode.org//wiki/Address of a variable	http://rosettacode.org//wiki/Address of a variable
KS test for primes			http://rosettacode.org//wiki/AKS_test_for_primes	http://rosettacode.org//wiki/AKS_test_for_primes_
lign columns			http://rosettacode.org//wiki/Align_columns	http://rosettacode.org//wiki/Align_columns
liquot sequence classifications			http://rosettacode.org//wiki/Aliquot_sequence_classifications	http://rosettacode.org//wiki/Aliguot_sequence_classifications
Imost prime			http://rosettacode.org//wiki/Almost_prime	http://rosettacode.org//wiki/Almost_prime
mb			http://rosettacode.org//wiki/Amb	http://rosettacode.org//wiki/Amb
micable pairs			http://rosettacode.org//wiki/Amicable_pairs	http://rosettacode.org//wiki/Amicable_pairs
nagrams			http://rosettacode.org/wiki/Anagrams	http://rosettacode.org//wiki/Anagrams
nagrams/Deranged anagrams			http://rosettacode.org/wiki/Anagrams/Deranged_anagrams	http://rosettacode.org//wiki/Anagrams/Deranged_anagrams
nimate a pendulum			http://rosettacode.org/wiki/Animate a pendulum	http://rosettacode.org//wiki/Animate a pendulum
nimation			http://rosettacode.org//wiki/Animation	http://rosettacode.org//wiki/Animation
nonymous recursion			http://rosettacode.org/wiki/Anonymous_recursion	http://rosettacode.org//wiki/Anonymous_recursion
ppend a record to the end of a text file			· · · · · · · · · · · · · · · · · · ·	
ppend a record to the end of a text file			http://rosettacode.org//wiki/Append_a_record_to_the_end_of_a_text_file	http://rosettacode.org//wiki/Append_a_record_to_the_end_of_a_text_file
			http://rosettacode.org//wiki/Apply_a_callback_to_an_array	http://rosettacode.org//wiki/Apply_a_callback_to_an_array
rbitrary-precision integers (included)			http://rosettacode.org//wiki/Arbitrary-precision_integers_(included)	http://rosettacode.org//wiki/Arbitrary-precision_integers_(included)
rena storage pool			http://rosettacode.org//wiki/Arena_storage_pool	http://rosettacode.org//wiki/Arena_storage_pool
rithmetic evaluation			http://rosettacode.org//wiki/Arithmetic_evaluation	http://rosettacode.org//wiki/Arithmetic_evaluation
rithmetic-geometric mean			http://rosettacode.org//wiki/Arithmetic-geometric_mean	http://rosettacode.org//wiki/Arithmetic-geometric_mean
rithmetic-geometric mean/Calculate Pi			http://rosettacode.org//wiki/Arithmetic-geometric_mean/Calculate_Pi	http://rosettacode.org//wiki/Arithmetic-geometric_mean/Calculate_Pi
rithmetic/Complex			http://rosettacode.org//wiki/Arithmetic/Complex	http://rosettacode.org//wiki/Arithmetic/Complex
rithmetic/Integer			http://rosettacode.org//wiki/Arithmetic/Integer	http://rosettacode.org//wiki/Arithmetic/Integer
rithmetic/Rational			http://rosettacode.org//wiki/Arithmetic/Rational	http://rosettacode.org//wiki/Arithmetic/Rational
rray concatenation			http://rosettacode.org//wiki/Array_concatenation	http://rosettacode.org//wiki/Array_concatenation
rray length			http://rosettacode.org//wiki/Array_length	http://rosettacode.org//wiki/Array_length
rrays			http://rosettacode.org//wiki/Arrays	http://rosettacode.org//wiki/Arrays
ssertions			http://rosettacode.org//wiki/Assertions	http://rosettacode.org//wiki/Assertions
ssociative array/Creation			http://rosettacode.org//wiki/Associative_array/Creation	http://rosettacode.org//wiki/Associative_array/Creation
ssociative array/Iteration			http://rosettacode.org//wiki/Associative_array/Iteration	http://rosettacode.org//wiki/Associative_array/Iteration
tomic updates			http://rosettacode.org//wiki/Atomic_updates	http://rosettacode.org//wiki/Atomic_updates
verage loop length			http://rosettacode.org//wiki/Average_loop_length	http://rosettacode.org//wiki/Average_loop_length
verages/Arithmetic mean			http://rosettacode.org//wiki/Averages/Arithmetic_mean	http://rosettacode.org//wiki/Averages/Arithmetic_mean
verages/Mean angle			http://rosettacode.org//wiki/Averages/Mean_angle	http://rosettacode.org//wiki/Averages/Mean_angle
verages/Mean time of day			http://rosettacode.org//wiki/Averages/Mean_time_of_day	http://rosettacode.org//wiki/Averages/Mean_time_of_day
verages/Median			http://rosettacode.org//wiki/Averages/Median	http://rosettacode.org//wiki/Averages/Median
verages/Mode			http://rosettacode.org//wiki/Averages/Mode	http://rosettacode.org//wiki/Averages/Mode
verages/Pythagorean means			http://rosettacode.org//wiki/Averages/Pythagorean_means	http://rosettacode.org//wiki/Averages/Pythagorean_means
verages/Root mean square			http://rosettacode.org//wiki/Averages/Root_mean_square	http://rosettacode.org//wiki/Averages/Root_mean_square
verages/Simple moving average			http://rosettacode.org/wiki/Averages/Simple_moving_average	http://rosettacode.org//wiki/Averages/Simple moving average
VL tree			http://rosettacode.org/wiki/AVL_tree	http://rosettacode.org//wiki/AVL_tree
Balanced brackets			http://rosettacode.org/wiki/Balanced brackets	http://rosettacode.org//wiki/Balanced_brackets

Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
Project Name Balanced ternary	rioject Description	Category	Link to Project Description http://rosettacode.org//wiki/Balanced_ternary	· · · · · · · · · · · · · · · · · · ·
Benford's law				http://rosettacode.org//wiki/Balanced_ternary
			http://rosettacode.org//wiki/Benford%27s_law	http://rosettacode.org//wiki/Benford%27s_law
ernoulli numbers			http://rosettacode.org//wiki/Bernoulli_numbers	http://rosettacode.org//wiki/Bernoulli_numbers
est shuffle			http://rosettacode.org//wiki/Best_shuffle	http://rosettacode.org//wiki/Best_shuffle
inary digits			http://rosettacode.org//wiki/Binary_digits	http://rosettacode.org//wiki/Binary_digits
inary search			http://rosettacode.org//wiki/Binary_search	http://rosettacode.org//wiki/Binary_search
inary strings			http://rosettacode.org//wiki/Binary_strings	http://rosettacode.org//wiki/Binary_strings
itcoin/address validation			http://rosettacode.org//wiki/Bitcoin/address_validation	http://rosettacode.org//wiki/Bitcoin/address_validation
itcoin/public point to address			http://rosettacode.org//wiki/Bitcoin/public_point_to_address	http://rosettacode.org//wiki/Bitcoin/public_point_to_address
itmap			http://rosettacode.org//wiki/Bitmap	http://rosettacode.org//wiki/Bitmap
itmap/Bresenham's line algorithm			http://rosettacode.org//wiki/Bitmap/Bresenham%27s_line_algorithm	http://rosettacode.org//wiki/Bitmap/Bresenham%27s_line_algorithm
itmap/Flood fill			http://rosettacode.org//wiki/Bitmap/Flood_fill	http://rosettacode.org//wiki/Bitmap/Flood_fill
itmap/Histogram			http://rosettacode.org//wiki/Bitmap/Histogram	http://rosettacode.org//wiki/Bitmap/Histogram
tmap/Midpoint circle algorithm			http://rosettacode.org//wiki/Bitmap/Midpoint_circle_algorithm	http://rosettacode.org//wiki/Bitmap/Midpoint_circle_algorithm
itmap/PPM conversion through a pipe			http://rosettacode.org//wiki/Bitmap/PPM_conversion_through_a_pipe	http://rosettacode.org//wiki/Bitmap/PPM_conversion_through_a_pipe
itmap/Read a PPM file			http://rosettacode.org//wiki/Bitmap/Read_a_PPM_file	http://rosettacode.org//wiki/Bitmap/Read_a_PPM_file
itmap/Read an image through a pipe			http://rosettacode.org//wiki/Bitmap/Read_an_image_through_a_pipe	http://rosettacode.org//wiki/Bitmap/Read_an_image_through_a_pipe
itmap/Write a PPM file			http://rosettacode.org//wiki/Bitmap/Write_a_PPM_file	http://rosettacode.org//wiki/Bitmap/Write_a_PPM_file
itwise IO			http://rosettacode.org//wiki/Bitwise_IO	http://rosettacode.org//wiki/Bitwise_IO
itwise operations			http://rosettacode.org//wiki/Bitwise_operations	http://rosettacode.org//wiki/Bitwise_operations
oolean values			http://rosettacode.org//wiki/Boolean_values	http://rosettacode.org//wiki/Boolean_values
ox the compass			http://rosettacode.org//wiki/Box_the_compass	http://rosettacode.org//wiki/Box_the_compass
race expansion			http://rosettacode.org//wiki/Brace_expansion	http://rosettacode.org//wiki/Brace expansion
reak OO privacy			http://rosettacode.org//wiki/Break OO privacy	http://rosettacode.org//wiki/Break OO privacy
rownian tree			http://rosettacode.org//wiki/Brownian_tree	http://rosettacode.org//wiki/Brownian_tree
ulls and cows			http://rosettacode.org//wiki/Bulls and cows	http://rosettacode.org//wiki/Bulls_and_cows
ulls and cows/Player			http://rosettacode.org//wiki/Bulls and cows/Player	http://rosettacode.org//wiki/Bulls and cows/Player
aesar cipher			http://rosettacode.org//wiki/Caesar_cipher	http://rosettacode.org//wiki/Caesar_cipher
alendar			http://rosettacode.org//wiki/Calendar	http://rosettacode.org//wiki/Calendar
alendar - for "REAL" programmers			http://rosettacode.org//wiki/Calendar - for %22REAL%22 programmers	http://rosettacode.org//wiki/Calendar - for %22REAL%22 programmers
all a foreign-language function			http://rosettacode.org//wiki/Call a foreign-language function	http://rosettacode.org//wiki/Call a foreign-language function
all a function			http://rosettacode.org//wiki/Call_a_function	http://rosettacode.org//wiki/Call_a_function
all a function in a shared library			http://rosettacode.org//wiki/Call_a_function_in_a_shared_library	http://rosettacode.org//wiki/Call_a_function_in_a_shared_library
all an object method			http://rosettacode.org//wiki/Call_an_object_method	http://rosettacode.org//wiki/Call_an_object_method
anny edge detector			http://rosettacode.org//wiki/Canny_edge_detector	http://rosettacode.org//wiki/Canny_edge_detector
armichael 3 strong pseudoprimes			http://rosettacode.org//wiki/Carmichael 3_strong_pseudoprimes	http://rosettacode.org//wiki/Carmichael_3_strong_pseudoprimes
ase-sensitivity of identifiers			http://rosettacode.org//wiki/Case-sensitivity_of_identifiers	http://rosettacode.org//wiki/Case-sensitivity_of_identifiers
asting out nines			http://rosettacode.org//wiki/Casting_out_nines	http://rosettacode.org//wiki/Casting_out_nines
atalan numbers			http://rosettacode.org//wiki/Catalan_numbers	http://rosettacode.org//wiki/Catalan_numbers
atalan numbers/Pascal's triangle			http://rosettacode.org//wiki/Catalan_numbers/Pascal%27s_triangle	http://rosettacode.org//wiki/Catalan_numbers/Pascal%27s_triangle
atamorphism			http://rosettacode.org//wiki/Catamorphism	http://rosettacode.org//wiki/Catamorphism
haracter codes			http://rosettacode.org//wiki/Character_codes	http://rosettacode.org//wiki/Character_codes
hat server			http://rosettacode.org//wiki/Chat_server	http://rosettacode.org//wiki/Chat_server
neck Machin-like formulas			http://rosettacode.org//wiki/Check_Machin-like_formulas	http://rosettacode.org//wiki/Check_Machin-like_formulas
heck that file exists			http://rosettacode.org//wiki/Check_that_file_exists	http://rosettacode.org//wiki/Check_that_file_exists
neckpoint synchronization			http://rosettacode.org//wiki/Checkpoint_synchronization	http://rosettacode.org//wiki/Checkpoint_synchronization
ninese remainder theorem			http://rosettacode.org//wiki/Chinese_remainder_theorem	http://rosettacode.org//wiki/Chinese_remainder_theorem
nolesky decomposition			http://rosettacode.org//wiki/Cholesky_decomposition	http://rosettacode.org//wiki/Cholesky_decomposition
rcles of given radius through two points			http://rosettacode.org//wiki/Circles of given radius through two points	http://rosettacode.org//wiki/Circles of given radius through two points
lasses			http://rosettacode.org//wiki/Classes	http://rosettacode.org//wiki/Classes
losest-pair problem			http://rosettacode.org//wiki/Closest-pair_problem	http://rosettacode.org//wiki/Closest-pair_problem
losures/Value capture			http://rosettacode.org//wiki/Closures/Value_capture	http://rosettacode.org//wiki/Closures/Value_capture
ollections			http://rosettacode.org//wiki/Collections	http://rosettacode.org//wiki/Collections
Color of a screen pixel			http://rosettacode.org//wiki/Color of a screen pixel	http://rosettacode.org//wiki/Color of a screen pixel
Color quantization			http://rosettacode.org//wiki/Color_guantization	http://rosettacode.org//wiki/Color_quantization

	<u>cademy.com</u>			
Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
Colour bars/Display			http://rosettacode.org//wiki/Colour_bars/Display	http://rosettacode.org//wiki/Colour_bars/Display
Colour pinstripe/Display			http://rosettacode.org//wiki/Colour_pinstripe/Display	http://rosettacode.org//wiki/Colour_pinstripe/Display
Colour pinstripe/Printer			http://rosettacode.org//wiki/Colour_pinstripe/Printer	http://rosettacode.org//wiki/Colour_pinstripe/Printer
Combinations			http://rosettacode.org//wiki/Combinations	http://rosettacode.org//wiki/Combinations
Combinations and permutations			http://rosettacode.org//wiki/Combinations and permutations	http://rosettacode.org//wiki/Combinations and permutations
Combinations with repetitions			http://rosettacode.org//wiki/Combinations with repetitions	http://rosettacode.org//wiki/Combinations with repetitions
Comma quibbling			http://rosettacode.org//wiki/Comma_quibbling	http://rosettacode.org//wiki/Comma_quibbling
Command-line arguments			http://rosettacode.org//wiki/Command-line_arguments	http://rosettacode.org//wiki/Command-line_arguments
Comments			http://rosettacode.org//wiki/Comments	http://rosettacode.org//wiki/Comments
Compare a list of strings			http://rosettacode.org//wiki/Compare a list of strings	http://rosettacode.org//wiki/Compare a list of strings
Compare sorting algorithms' performa	nce		http://rosettacode.org//wiki/Compare sorting algorithms%27 performance	http://rosettacode.org//wiki/Compare sorting algorithms%27 performance
Compile-time calculation			http://rosettacode.org//wiki/Compile-time_calculation	http://rosettacode.org//wiki/Compile-time_calculation
Compound data type			http://rosettacode.org//wiki/Compound_data_type	http://rosettacode.org//wiki/Compound_data_type
Concurrent computing			http://rosettacode.org//wiki/Concurrent_computing	http://rosettacode.org//wiki/Concurrent_computing
Conditional structures			http://rosettacode.org//wiki/Conditional_structures	http://rosettacode.org//wiki/Conditional_structures
Conjugate transpose			http://rosettacode.org//wiki/Conjugate_transpose	http://rosettacode.org/wiki/Conjugate_transpose
Constrained genericity			http://rosettacode.org//wiki/Constrained_genericity	http://rosettacode.org//wiki/Constrained_genericity
Constrained genericity Constrained random points on a circle			http://rosettacode.org//wiki/Constrained_genericity	http://rosettacode.org//wiki/Constrained_genericity
Continued fraction			http://rosettacode.org//wiki/Continued_fraction	http://rosettacode.org/wiki/Continued_fraction
Continued fraction/Arithmetic/Construction	at from rational number		http://rosettacode.org//wiki/Continued_raction/Arithmetic/Construct_from_rational_number	
	ct from rational number			
Convert decimal number to rational			http://rosettacode.org//wiki/Convert_decimal_number_to_rational	http://rosettacode.org//wiki/Convert_decimal_number_to_rational
Convert seconds to compound duration	in		http://rosettacode.org//wiki/Convert_seconds_to_compound_duration	http://rosettacode.org//wiki/Convert_seconds_to_compound_duration
Conway's Game of Life			http://rosettacode.org//wiki/Conway%27s_Game_of_Life	http://rosettacode.org//wiki/Conway%27s_Game_of_Life
Copy a string			http://rosettacode.org//wiki/Copy_a_string	http://rosettacode.org//wiki/Copy_a_string
Count in factors			http://rosettacode.org//wiki/Count_in_factors	http://rosettacode.org//wiki/Count_in_factors
Count in octal			http://rosettacode.org//wiki/Count_in_octal	http://rosettacode.org//wiki/Count_in_octal
Count occurrences of a substring			http://rosettacode.org//wiki/Count_occurrences_of_a_substring	http://rosettacode.org//wiki/Count_occurrences_of_a_substring
Count the coins			http://rosettacode.org//wiki/Count_the_coins	http://rosettacode.org//wiki/Count_the_coins
Cramer's rule			http://rosettacode.org//wiki/Cramer%27s_rule	http://rosettacode.org//wiki/Cramer%27s_rule
CRC-32			http://rosettacode.org//wiki/CRC-32	http://rosettacode.org//wiki/CRC-32
Create a file			http://rosettacode.org//wiki/Create_a_file	http://rosettacode.org//wiki/Create_a_file
Create a file on magnetic tape			http://rosettacode.org//wiki/Create_a_file_on_magnetic_tape	http://rosettacode.org//wiki/Create_a_file_on_magnetic_tape
Create a two-dimensional array at run	time		http://rosettacode.org//wiki/Create_a_two-dimensional_array_at_runtime	http://rosettacode.org//wiki/Create_a_two-dimensional_array_at_runtime
Create an HTML table			http://rosettacode.org//wiki/Create_an_HTML_table	http://rosettacode.org//wiki/Create_an_HTML_table
Create an object at a given address			http://rosettacode.org//wiki/Create_an_object_at_a_given_address	http://rosettacode.org//wiki/Create_an_object_at_a_given_address
CSV data manipulation			http://rosettacode.org//wiki/CSV_data_manipulation	http://rosettacode.org//wiki/CSV_data_manipulation
CSV to HTML translation			http://rosettacode.org//wiki/CSV_to_HTML_translation	http://rosettacode.org//wiki/CSV_to_HTML_translation
Currying			http://rosettacode.org//wiki/Currying	http://rosettacode.org//wiki/Currying
Cut a rectangle			http://rosettacode.org//wiki/Cut_a_rectangle	http://rosettacode.org//wiki/Cut_a_rectangle
Date format			http://rosettacode.org//wiki/Date_format	http://rosettacode.org//wiki/Date_format
Date manipulation			http://rosettacode.org//wiki/Date_manipulation	http://rosettacode.org//wiki/Date_manipulation
Day of the week			http://rosettacode.org//wiki/Day_of_the_week	http://rosettacode.org//wiki/Day_of_the_week
Deal cards for FreeCell			http://rosettacode.org//wiki/Deal_cards_for_FreeCell	http://rosettacode.org//wiki/Deal cards for FreeCell
Death Star			http://rosettacode.org//wiki/Death_Star	http://rosettacode.org//wiki/Death_Star
Deconvolution/1D			http://rosettacode.org//wiki/Deconvolution/1D	http://rosettacode.org//wiki/Deconvolution/1D
Deconvolution/2D+			http://rosettacode.org//wiki/Deconvolution/2D%2B	http://rosettacode.org//wiki/Deconvolution/2D%2B
Deepcopy			http://rosettacode.org//wiki/Deepcopy	http://rosettacode.org//wiki/Deepcopy
Define a primitive data type			http://rosettacode.org//wiki/Define_a_primitive_data_type	http://rosettacode.org//wiki/Define a primitive data type
Delegates			http://rosettacode.org//wiki/Delegates	http://rosettacode.org/wiki/Delegates
Delegates Delete a file			http://rosettacode.org//wiki/Delete_a_file_	http://rosettacode.org/wiki/Delete a file
Detect division by zero			http://rosettacode.org//wiki/Detect_a_mie http://rosettacode.org//wiki/Detect_division_by_zero	http://rosettacode.org//wiki/Detect division by zero
Determine if a string is numeric				http://rosettacode.org/wiki/Determine if a string is numeric
Determine if a string is numeric Determine if only one instance is runn	ina		http://rosettacode.org//wiki/Determine_if_a_string_is_numeric	http://rosettacode.org//wiki/Determine_if_a_string_is_numeric http://rosettacode.org//wiki/Determine_if_a_string_is_numeric
	III I		http://rosettacode.org//wiki/Determine_if_only_one_instance_is_running	
Digital root			http://rosettacode.org//wiki/Digital_root	http://rosettacode.org//wiki/Digital_root

Drain at Nama	ademy.com	Cata	Link to Businet Decemention	Link to Deciset Colution
Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
Dinesman's multiple-dwelling problem			http://rosettacode.org//wiki/Dinesman%27s_multiple-dwelling_problem	http://rosettacode.org//wiki/Dinesman%27s_multiple-dwelling_problem
Dining philosophers			http://rosettacode.org//wiki/Dining_philosophers	http://rosettacode.org//wiki/Dining_philosophers
Discordian date			http://rosettacode.org//wiki/Discordian_date	http://rosettacode.org//wiki/Discordian_date
Distributed programming			http://rosettacode.org//wiki/Distributed_programming	http://rosettacode.org//wiki/Distributed_programming
DNS query			http://rosettacode.org//wiki/DNS_query	http://rosettacode.org//wiki/DNS_query
Documentation			http://rosettacode.org//wiki/Documentation	http://rosettacode.org//wiki/Documentation
Dot product			http://rosettacode.org//wiki/Dot_product	http://rosettacode.org//wiki/Dot_product
Doubly-linked list/Definition			http://rosettacode.org//wiki/Doubly-linked_list/Definition	http://rosettacode.org//wiki/Doubly-linked_list/Definition
Doubly-linked list/Element definition			http://rosettacode.org//wiki/Doubly-linked_list/Element_definition	http://rosettacode.org//wiki/Doubly-linked_list/Element_definition
Doubly-linked list/Element insertion			http://rosettacode.org//wiki/Doubly-linked_list/Element_insertion	http://rosettacode.org//wiki/Doubly-linked_list/Element_insertion
Doubly-linked list/Traversal			http://rosettacode.org//wiki/Doubly-linked_list/Traversal	http://rosettacode.org//wiki/Doubly-linked_list/Traversal
Dragon curve			http://rosettacode.org//wiki/Dragon_curve	http://rosettacode.org//wiki/Dragon_curve
Draw a clock			http://rosettacode.org//wiki/Draw_a_clock	http://rosettacode.org//wiki/Draw a clock
Draw a cuboid			http://rosettacode.org//wiki/Draw a cuboid	http://rosettacode.org//wiki/Draw a cuboid
Draw a sphere			http://rosettacode.org//wiki/Draw a sphere	http://rosettacode.org//wiki/Draw_a_sphere
Dutch national flag problem			http://rosettacode.org//wiki/Dutch_national_flag_problem	http://rosettacode.org//wiki/Dutch_national_flag_problem
Dynamic variable names			http://rosettacode.org//wiki/Dynamic_variable_names	http://rosettacode.org//wiki/Dynamic_variable_names
Echo server			http://rosettacode.org//wiki/Echo_server	http://rosettacode.org//wiki/Echo_server
Element-wise operations			http://rosettacode.org//wiki/Element-wise_operations	http://rosettacode.org//wiki/Element-wise_operations
Empty directory			http://rosettacode.org//wiki/Empty_directory	http://rosettacode.org//wiki/Empty_directory
Empty program			http://rosettacode.org//wiki/Empty_program	http://rosettacode.org//wiki/Empty_program
Empty string			http://rosettacode.org//wiki/Empty_program	http://rosettacode.org//wiki/Empty_program
Enforced immutability			http://rosettacode.org//wiki/Enforced immutability	http://rosettacode.org//wiki/Enforced_immutability
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Entropy			http://rosettacode.org//wiki/Entropy	http://rosettacode.org//wiki/Entropy
Enumerations			http://rosettacode.org//wiki/Enumerations	http://rosettacode.org//wiki/Enumerations
Environment variables			http://rosettacode.org//wiki/Environment_variables	http://rosettacode.org//wiki/Environment_variables
Equilibrium index			http://rosettacode.org//wiki/Equilibrium_index	http://rosettacode.org//wiki/Equilibrium_index
Ethiopian multiplication			http://rosettacode.org//wiki/Ethiopian_multiplication	http://rosettacode.org//wiki/Ethiopian_multiplication
Euler method			http://rosettacode.org//wiki/Euler_method	http://rosettacode.org//wiki/Euler_method
Euler's sum of powers conjecture			http://rosettacode.org//wiki/Euler%27s_sum_of_powers_conjecture	http://rosettacode.org//wiki/Euler%27s_sum_of_powers_conjecture
Evaluate binomial coefficients			http://rosettacode.org//wiki/Evaluate_binomial_coefficients	http://rosettacode.org//wiki/Evaluate_binomial_coefficients
Even or odd			http://rosettacode.org//wiki/Even_or_odd	http://rosettacode.org//wiki/Even_or_odd
Events			http://rosettacode.org//wiki/Events	http://rosettacode.org//wiki/Events
Evolutionary algorithm			http://rosettacode.org//wiki/Evolutionary_algorithm	http://rosettacode.org//wiki/Evolutionary_algorithm
Exceptions			http://rosettacode.org//wiki/Exceptions	http://rosettacode.org//wiki/Exceptions
Exceptions/Catch an exception thrown in	a nested call		http://rosettacode.org//wiki/Exceptions/Catch_an_exception_thrown_in_a_nested_call	http://rosettacode.org//wiki/Exceptions/Catch_an_exception_thrown_in_a_nested_call
Executable library			http://rosettacode.org//wiki/Executable_library	http://rosettacode.org//wiki/Executable_library
Execute a Markov algorithm			http://rosettacode.org//wiki/Execute_a_Markov_algorithm	http://rosettacode.org//wiki/Execute_a_Markov_algorithm
Execute a system command			http://rosettacode.org//wiki/Execute_a_system_command	http://rosettacode.org//wiki/Execute_a_system_command
Execute Brain****			http://rosettacode.org//wiki/Execute_Brain****	http://rosettacode.org//wiki/Execute_Brain****
Execute HQ9+			http://rosettacode.org//wiki/Execute_HQ9%2B	http://rosettacode.org//wiki/Execute_HQ9%2B
Execute SNUSP			http://rosettacode.org//wiki/Execute_SNUSP	http://rosettacode.org//wiki/Execute_SNUSP
Exponentiation operator			http://rosettacode.org//wiki/Exponentiation_operator	http://rosettacode.org//wiki/Exponentiation_operator
Extend your language			http://rosettacode.org//wiki/Extend_your_language	http://rosettacode.org//wiki/Extend_your_language
Extensible prime generator			http://rosettacode.org//wiki/Extensible_prime_generator	http://rosettacode.org//wiki/Extensible_prime_generator
Extreme floating point values			http://rosettacode.org//wiki/Extreme_floating_point_values	http://rosettacode.org//wiki/Extreme floating point values
Factorial			http://rosettacode.org//wiki/Factorial	http://rosettacode.org//wiki/Factorial
Factors of a Mersenne number			http://rosettacode.org//wiki/Factors_of_a_Mersenne_number	http://rosettacode.org//wiki/Factors_of_a_Mersenne_number
Factors of an integer			http://rosettacode.org//wiki/Factors of an integer	http://rosettacode.org//wiki/Factors of an integer
Fast Fourier transform			http://rosettacode.org//wiki/Fast Fourier transform	http://rosettacode.org//wiki/Fast_Fourier_transform
Fibonacci n-step number sequences			http://rosettacode.org//wiki/Fibonacci n-step number sequences	http://rosettacode.org//wiki/Fibonacci n-step number sequences
Fibonacci sequence			http://rosettacode.org//wiki/Fibonacci_n-step_fumber_sequences	http://rosettacode.org//wiki/Fibonacci_sequence
Fibonacci sequence Fibonacci word			http://rosettacode.org//wiki/Fibonacci_sequence	http://rosettacode.org//wiki/Fibonacci_sequence
Fibonacci word Fibonacci word/fractal				
FIDOHACCI WORD/ITACIAI			http://rosettacode.org//wiki/Fibonacci_word/fractal	http://rosettacode.org//wiki/Fibonacci_word/fractal

Category		Link to Project Solution
	http://rosettacode.org//wiki/File_modification_time	http://rosettacode.org//wiki/File_modification_time
	http://rosettacode.org//wiki/File_size	http://rosettacode.org//wiki/File_size
	http://rosettacode.org//wiki/Filter	http://rosettacode.org//wiki/Filter
	http://rosettacode.org//wiki/Find_common_directory_path	http://rosettacode.org//wiki/Find_common_directory_path
	http://rosettacode.org//wiki/Find_largest_left_truncatable_prime_in_a_given_base	http://rosettacode.org//wiki/Find_largest_left_truncatable_prime_in_a_given_base
	http://rosettacode.org//wiki/Find_limit_of_recursion	http://rosettacode.org//wiki/Find_limit_of_recursion
	http://rosettacode.org//wiki/Find_the_last_Sunday_of_each_month	http://rosettacode.org//wiki/Find_the_last_Sunday_of_each_month
	http://rosettacode.org//wiki/Find_the_missing_permutation	http://rosettacode.org//wiki/Find_the_missing_permutation
	http://rosettacode.org//wiki/First_class_environments	http://rosettacode.org//wiki/First_class_environments
	http://rosettacode.org//wiki/First-class_functions	http://rosettacode.org//wiki/First-class_functions
	http://rosettacode.org//wiki/First-class_functions/Use_numbers_analogously	http://rosettacode.org//wiki/First-class_functions/Use_numbers_analogously
	http://rosettacode.org//wiki/Five_weekends	http://rosettacode.org//wiki/Five_weekends
	http://rosettacode.org//wiki/FizzBuzz	http://rosettacode.org//wiki/FizzBuzz
	http://rosettacode.org//wiki/Flatten_a_list	http://rosettacode.org//wiki/Flatten_a_list
	http://rosettacode.org//wiki/Flipping_bits_game	http://rosettacode.org//wiki/Flipping_bits_game
	http://rosettacode.org//wiki/Flow-control_structures	http://rosettacode.org//wiki/Flow-control_structures
	http://rosettacode.org//wiki/Floyd%27s_triangle	http://rosettacode.org//wiki/Floyd%27s_triangle
	http://rosettacode.org//wiki/Forest_fire	http://rosettacode.org//wiki/Forest_fire
	http://rosettacode.org//wiki/Fork	http://rosettacode.org//wiki/Fork
	http://rosettacode.org//wiki/Formal power series	http://rosettacode.org//wiki/Formal power series
	http://rosettacode.org//wiki/Formatted_numeric_output	http://rosettacode.org//wiki/Formatted_numeric_output
	http://rosettacode.org//wiki/Forward difference	http://rosettacode.org//wiki/Forward difference
	http://rosettacode.org//wiki/Four_bit_adder_	http://rosettacode.org//wiki/Four bit adder
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	http://rosettacode.org//wiki/Fractal_tree	http://rosettacode.org//wiki/Fractal_tree
	http://rosettacode.org//wiki/Fractran	http://rosettacode.org//wiki/Fractran
	http://rosettacode.org//wiki/FTP	http://rosettacode.org//wiki/FTP
	http://rosettacode.org//wiki/Function_composition	http://rosettacode.org//wiki/Function_composition
	http://rosettacode.org//wiki/Function_definition	http://rosettacode.org//wiki/Function_definition
	http://rosettacode.org//wiki/Function_frequency	http://rosettacode.org//wiki/Function_frequency
	http://rosettacode.org//wiki/Function_prototype	http://rosettacode.org//wiki/Function_prototype
	http://rosettacode.org//wiki/Galton_box_animation	http://rosettacode.org//wiki/Galton_box_animation
	http://rosettacode.org//wiki/Gamma_function	http://rosettacode.org//wiki/Gamma_function
	http://rosettacode.org//wiki/Gaussian_elimination	http://rosettacode.org//wiki/Gaussian_elimination
	http://rosettacode.org//wiki/General_FizzBuzz	http://rosettacode.org//wiki/General_FizzBuzz
	http://rosettacode.org//wiki/Generate_Chess960_starting_position	http://rosettacode.org//wiki/Generate_Chess960_starting_position
	http://rosettacode.org//wiki/Generate_lower_case_ASCII_alphabet	http://rosettacode.org//wiki/Generate_lower_case_ASCII_alphabet
	http://rosettacode.org//wiki/Generator/Exponential	http://rosettacode.org//wiki/Generator/Exponential
	http://rosettacode.org//wiki/Generic_swap	http://rosettacode.org//wiki/Generic_swap
	http://rosettacode.org//wiki/Globally_replace_text_in_several_files	http://rosettacode.org//wiki/Globally_replace_text_in_several_files
	http://rosettacode.org//wiki/Go_Fish	http://rosettacode.org//wiki/Go_Fish
	http://rosettacode.org//wiki/Gray_code	http://rosettacode.org//wiki/Gray_code
	http://rosettacode.org//wiki/Grayscale_image	http://rosettacode.org//wiki/Grayscale_image
	http://rosettacode.org//wiki/Greatest_common_divisor	http://rosettacode.org//wiki/Greatest_common_divisor
	http://rosettacode.org//wiki/Greatest_element_of_a_list	http://rosettacode.org//wiki/Greatest_element_of_a_list
	http://rosettacode.org//wiki/Greatest_subsequential_sum	http://rosettacode.org//wiki/Greatest_subsequential_sum
	http://rosettacode.org//wiki/Greyscale_bars/Display	http://rosettacode.org//wiki/Greyscale_bars/Display
	http://rosettacode.org//wiki/Guess the number	http://rosettacode.org//wiki/Guess the number
	http://rosettacode.org//wiki/Guess the number/With feedback	http://rosettacode.org//wiki/Guess_the_number/With_feedback
	http://rosettacode.org//wiki/Guess the number/With feedback (player)	http://rosettacode.org//wiki/Guess_the_number/With_feedback_(player)
	http://rosettacode.org//wiki/GUI_component_interaction	http://rosettacode.org//wiki/GUI component interaction
	http://rosettacode.org//wiki/GUI enabling/disabling of controls	http://rosettacode.org//wiki/GUI_enabling/disabling_of_controls
	http://rosettacode.org//wiki/GUI/Maximum_window_dimensions	http://rosettacode.org//wiki/GUI/Maximum_window_dimensions
		http://rosettacode.org//wiki/Hailstone_sequence
	· · · · · · · · · · · · · · · · · · ·	http://rosettacode.org//wiki/Hamming_numbers http://rosettacode.org//wiki/Handle_a_signal
		http://rosettacode.org//wiki/Hailstone_sequence http://rosettacode.org//wiki/Hamming_numbers http://rosettacode.org//wiki/Handle_a_signal

Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
Happy numbers			http://rosettacode.org//wiki/Happy_numbers	http://rosettacode.org//wiki/Happy_numbers
larshad or Niven series			http://rosettacode.org//wiki/Harshad_or_Niven_series	http://rosettacode.org//wiki/Harshad_or_Niven_series
ash from two arrays			http://rosettacode.org//wiki/Hash_from_two_arrays	http://rosettacode.org//wiki/Hash_from_two_arrays
ash join			http://rosettacode.org//wiki/Hash_join	http://rosettacode.org//wiki/Hash_join
aversine formula			http://rosettacode.org//wiki/Haversine_formula	http://rosettacode.org//wiki/Haversine_formula
ello world/Graphical			http://rosettacode.org//wiki/Hello_world/Graphical	http://rosettacode.org//wiki/Hello_world/Graphical
ello world/Line printer			http://rosettacode.org//wiki/Hello_world/Line_printer	http://rosettacode.org//wiki/Hello_world/Line_printer
ello world/Newbie			http://rosettacode.org//wiki/Hello_world/Newbie	http://rosettacode.org//wiki/Hello_world/Newbie
ello world/Newline omission			http://rosettacode.org//wiki/Hello_world/Newline_omission	http://rosettacode.org//wiki/Hello_world/Newline_omission
ello world/Standard error			http://rosettacode.org//wiki/Hello_world/Standard_error	http://rosettacode.org//wiki/Hello_world/Standard_error
ello world/Text			http://rosettacode.org//wiki/Hello_world/Text	http://rosettacode.org//wiki/Hello_world/Text
ello world/Web server			http://rosettacode.org//wiki/Hello_world/Web_server	http://rosettacode.org//wiki/Hello_world/Web_server
ere document			http://rosettacode.org//wiki/Here_document	http://rosettacode.org//wiki/Here_document
eronian triangles			http://rosettacode.org//wiki/Heronian_triangles	http://rosettacode.org//wiki/Heronian_triangles
ckerson series of almost integers			http://rosettacode.org//wiki/Hickerson series of almost integers	http://rosettacode.org//wiki/Hickerson series of almost integers
gher-order functions			http://rosettacode.org//wiki/Higher-order_functions	http://rosettacode.org/wiki/Higher-order_functions
story variables			http://rosettacode.org//wiki/History_variables	http://rosettacode.org//wiki/History_variables
ofstadter Figure-Figure sequences			http://rosettacode.org//wiki/Hofstadter_Figure_Figure_sequences	http://rosettacode.org//wiki/Hofstadter_Figure_Figure_sequences
ofstadter Q sequence			http://rosettacode.org//wiki/Hofstadter_Q_sequence	http://rosettacode.org/wiki/Hofstadter_Q_sequence
ofstadter-Conway \$10,000 sequence			http://rosettacode.org/wiki/Hofstadter-Conway \$10,000 sequence	http://rosettacode.org/wiki/Hofstadter-Conway \$10,000 sequence
olidays related to Easter			http://rosettacode.org//wiki/Holidays_related_to_Easter	http://rosettacode.org//wiki/Holidays_related_to_Easter_
oneycombs			http://rosettacode.org//wiki/Honeycombs	http://rosettacode.org/wiki/Honeycombs
orizontal sundial calculations			http://rosettacode.org/wiki/Horizontal sundial calculations	http://rosettacode.org//wiki/Horizontal sundial calculations
orner's rule for polynomial evaluation			http://rosettacode.org//wiki/Horner%27s_rule_for_polynomial_evaluation	http://rosettacode.org//wiki/Horner%27s_rule_for_polynomial_evaluation
ost introspection			http://rosettacode.org//wiki/Host_introspection	http://rosettacode.org//wiki/Host_introspection
ostname			http://rosettacode.org//wiki/Hostname	http://rosettacode.org//wiki/Hostname
ough transform			http://rosettacode.org//wiki/Hough_transform	http://rosettacode.org//wiki/Hough_transform
TTP			http://rosettacode.org//wiki/HTTP	http://rosettacode.org//wiki/HTTP
TTPS			http://rosettacode.org//wiki/HTTPS	http://rosettacode.org//wiki/HTTPS
TTPS/Authenticated			http://rosettacode.org//wiki/HTTPS/Authenticated	http://rosettacode.org//wiki/HTTPS/Authenticated
TTPS/Client-authenticated			http://rosettacode.org//wiki/HTTPS/Client-authenticated	http://rosettacode.org//wiki/HTTPS/Client-authenticated
uffman coding			http://rosettacode.org//wiki/Huffman_coding	http://rosettacode.org//wiki/Huffman_coding
pefore E except after C			http://rosettacode.org//wiki/l_before_E_except_after_C	http://rosettacode.org//wiki/l_before_E_except_after_C
BAN			http://rosettacode.org//wiki/IBAN	http://rosettacode.org//wiki/IBAN
entity matrix			http://rosettacode.org//wiki/Identity_matrix	http://rosettacode.org//wiki/Identity_matrix
nage convolution			http://rosettacode.org//wiki/Image_convolution	http://rosettacode.org//wiki/Image_convolution
nage noise			http://rosettacode.org//wiki/Image_noise	http://rosettacode.org//wiki/Image_noise
clude a file			http://rosettacode.org//wiki/Include_a_file	http://rosettacode.org//wiki/Include_a_file
crement a numerical string			http://rosettacode.org//wiki/Increment_a_numerical_string	http://rosettacode.org//wiki/Increment_a_numerical_string
finity			http://rosettacode.org//wiki/Infinity	http://rosettacode.org//wiki/Infinity
heritance/Multiple			http://rosettacode.org//wiki/Inheritance/Multiple	http://rosettacode.org//wiki/Inheritance/Multiple
heritance/Single			http://rosettacode.org//wiki/Inheritance/Single	http://rosettacode.org//wiki/Inheritance/Single
put loop			http://rosettacode.org//wiki/Input_loop	http://rosettacode.org//wiki/Input_loop
teger comparison			http://rosettacode.org//wiki/Integer_comparison	http://rosettacode.org//wiki/Integer_comparison
teger overflow			http://rosettacode.org//wiki/Integer_overflow	http://rosettacode.org/wiki/Integer_overflow
teger sequence			http://rosettacode.org//wiki/Integer_sequence	http://rosettacode.org/wiki/Integer_sequence
eractive programming			http://rosettacode.org//wiki/Interactive_programming	http://rosettacode.org/wiki/Interactive_programming
trospection			http://rosettacode.org/wiki/Introspection	http://rosettacode.org//wiki/Introspection
verted index			http://rosettacode.org/wiki/Inverted_index	http://rosettacode.org//wiki/Inverted_index
verted syntax			http://rosettacode.org//wiki/Inverted_syntax	http://rosettacode.org//wiki/Inverted_syntax
erated digits squaring			http://rosettacode.org//wiki/Iterated_digits_squaring	http://rosettacode.org//wiki/Iterated_digits_squaring
aro distance			http://rosettacode.org//wiki/Jaro_distance	http://rosettacode.org//wiki/Jaro_distance
ensen's Device			http://rosettacode.org//wiki/Jensen%27s_Device	http://rosettacode.org//wiki/Jensen%27s_Device
ortSort			http://rosettacode.org//wiki/JortSort	http://rosettacode.org//wiki/JortSort
Josephus problem			http://rosettacode.org//wiki/Josephus_problem	http://rosettacode.org//wiki/Josephus_problem

Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
oystick position	Froject Description	Category	http://rosettacode.org//wiki/Joystick_position	http://rosettacode.org//wiki/Joystick_position
SON			http://rosettacode.org//wiki/JSON	
				http://rosettacode.org//wiki/JSON
ump anywhere			http://rosettacode.org//wiki/Jump_anywhere	http://rosettacode.org//wiki/Jump_anywhere
-d tree			http://rosettacode.org//wiki/K-d_tree	http://rosettacode.org//wiki/K-d_tree
-means++ clustering			http://rosettacode.org//wiki/K-means%2B%2B_clustering	http://rosettacode.org//wiki/K-means%2B%2B_clustering
aprekar numbers			http://rosettacode.org//wiki/Kaprekar_numbers	http://rosettacode.org//wiki/Kaprekar_numbers
eyboard input/Flush the keyboard buffer			http://rosettacode.org//wiki/Keyboard_input/Flush_the_keyboard_buffer	http://rosettacode.org//wiki/Keyboard_input/Flush_the_keyboard_buffer
eyboard input/Keypress check			http://rosettacode.org//wiki/Keyboard_input/Keypress_check	http://rosettacode.org//wiki/Keyboard_input/Keypress_check
eyboard input/Obtain a Y or N response			http://rosettacode.org//wiki/Keyboard_input/Obtain_a_Y_or_N_response	http://rosettacode.org//wiki/Keyboard_input/Obtain_a_Y_or_N_response
eyboard macros			http://rosettacode.org//wiki/Keyboard_macros	http://rosettacode.org//wiki/Keyboard_macros
napsack problem/0-1			http://rosettacode.org//wiki/Knapsack_problem/0-1	http://rosettacode.org//wiki/Knapsack_problem/0-1
napsack problem/Bounded			http://rosettacode.org//wiki/Knapsack_problem/Bounded	http://rosettacode.org//wiki/Knapsack_problem/Bounded
napsack problem/Continuous			http://rosettacode.org//wiki/Knapsack_problem/Continuous	http://rosettacode.org//wiki/Knapsack_problem/Continuous
napsack problem/Unbounded			http://rosettacode.org//wiki/Knapsack_problem/Unbounded	http://rosettacode.org//wiki/Knapsack_problem/Unbounded
night's tour			http://rosettacode.org//wiki/Knight%27s_tour	http://rosettacode.org//wiki/Knight%27s_tour
nuth shuffle			http://rosettacode.org//wiki/Knuth_shuffle	http://rosettacode.org//wiki/Knuth_shuffle
nuth's algorithm S			http://rosettacode.org//wiki/Knuth%27s_algorithm_S	http://rosettacode.org//wiki/Knuth%27s_algorithm_S
angton's ant			http://rosettacode.org//wiki/Langton%27s_ant	http://rosettacode.org//wiki/Langton%27s_ant
argest int from concatenated ints			http://rosettacode.org//wiki/Largest_int_from_concatenated_ints	http://rosettacode.org//wiki/Largest int from concatenated ints
ast Friday of each month			http://rosettacode.org//wiki/Last Friday of each month	http://rosettacode.org//wiki/Last Friday of each month
ast letter-first letter			http://rosettacode.org//wiki/Last_letter-first_letter	http://rosettacode.org//wiki/Last_letter-first_letter
eap year			http://rosettacode.org//wiki/Leap_year	http://rosettacode.org//wiki/Leap_year
east common multiple			http://rosettacode.org//wiki/Least_common_multiple	http://rosettacode.org//wiki/Least_common_multiple
eft factorials			http://rosettacode.org//wiki/Left_factorials	http://rosettacode.org//wiki/Left_factorials
etter frequency			http://rosettacode.org//wiki/Letter_frequency	http://rosettacode.org//wiki/Letter_frequency
evenshtein distance			http://rosettacode.org//wiki/Levenshtein_distance	http://rosettacode.org/wiki/Levenshtein_distance
near congruential generator			http://rosettacode.org//wiki/Linear_congruential_generator	http://rosettacode.org/wiki/Linear_congruential_generator_
st comprehensions			http://rosettacode.org/wiki/List_comprehensions	http://rosettacode.org//wiki/List_comprehensions
terals/Floating point				
• • • • • • • • • • • • • • • • • • • •			http://rosettacode.org//wiki/Literals/Floating_point	http://rosettacode.org//wiki/Literals/Floating_point
terals/Integer			http://rosettacode.org//wiki/Literals/Integer	http://rosettacode.org//wiki/Literals/Integer
terals/String			http://rosettacode.org//wiki/Literals/String	http://rosettacode.org//wiki/Literals/String
ogical operations			http://rosettacode.org//wiki/Logical_operations	http://rosettacode.org//wiki/Logical_operations
ong multiplication			http://rosettacode.org//wiki/Long_multiplication	http://rosettacode.org//wiki/Long_multiplication
ongest common subsequence			http://rosettacode.org//wiki/Longest_common_subsequence	http://rosettacode.org//wiki/Longest_common_subsequence
ongest increasing subsequence			http://rosettacode.org//wiki/Longest_increasing_subsequence	http://rosettacode.org//wiki/Longest_increasing_subsequence
ongest string challenge			http://rosettacode.org//wiki/Longest_string_challenge	http://rosettacode.org//wiki/Longest_string_challenge
ook-and-say sequence			http://rosettacode.org//wiki/Look-and-say_sequence	http://rosettacode.org//wiki/Look-and-say_sequence
pop over multiple arrays simultaneously			http://rosettacode.org//wiki/Loop_over_multiple_arrays_simultaneously	http://rosettacode.org//wiki/Loop_over_multiple_arrays_simultaneously
oops/Break			http://rosettacode.org//wiki/Loops/Break	http://rosettacode.org//wiki/Loops/Break
oops/Continue			http://rosettacode.org//wiki/Loops/Continue	http://rosettacode.org//wiki/Loops/Continue
pops/Do-while			http://rosettacode.org//wiki/Loops/Do-while	http://rosettacode.org//wiki/Loops/Do-while
cops/Downward for			http://rosettacode.org//wiki/Loops/Downward_for	http://rosettacode.org//wiki/Loops/Downward_for
oops/For			http://rosettacode.org//wiki/Loops/For	http://rosettacode.org//wiki/Loops/For
pops/For with a specified step			http://rosettacode.org//wiki/Loops/For_with_a_specified_step	http://rosettacode.org//wiki/Loops/For_with_a_specified_step
pops/Foreach			http://rosettacode.org//wiki/Loops/Foreach	http://rosettacode.org//wiki/Loops/Foreach
pops/Infinite			http://rosettacode.org//wiki/Loops/Infinite	http://rosettacode.org//wiki/Loops/Infinite
ops/N plus one half			http://rosettacode.org//wiki/Loops/N plus one half	http://rosettacode.org//wiki/Loops/N plus one half
pops/Nested			http://rosettacode.org//wiki/Loops/Nested	http://rosettacode.org//wiki/Loops/Nested
oops/While			http://rosettacode.org//wiki/Loops/While	http://rosettacode.org/wiki/Loops/While
J decomposition			http://rosettacode.org//wiki/LU_decomposition	http://rosettacode.org/wiki/LU_decomposition
ucas-Lehmer test			http://rosettacode.org//wiki/Lucas-Lehmer test	http://rosettacode.org//wiki/Lucas-Lehmer test
udic numbers			http://rosettacode.org//wiki/Ludic_numbers	http://rosettacode.org//wiki/Ludic_numbers
udic numbers uhn test of credit card numbers				
			http://rosettacode.org//wiki/Luhn_test_of_credit_card_numbers	http://rosettacode.org//wiki/Luhn_test_of_credit_card_numbers
ychrel numbers ZW compression			http://rosettacode.org//wiki/Lychrel_numbers http://rosettacode.org//wiki/LZW_compression	http://rosettacode.org//wiki/Lychrel_numbers http://rosettacode.org//wiki/LZW compression

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Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
achine code			http://rosettacode.org//wiki/Machine_code	http://rosettacode.org//wiki/Machine_code
ad Libs			http://rosettacode.org//wiki/Mad_Libs	http://rosettacode.org//wiki/Mad_Libs
agic squares of odd order			http://rosettacode.org//wiki/Magic_squares_of_odd_order	http://rosettacode.org//wiki/Magic_squares_of_odd_order
ain step of GOST 28147-89			http://rosettacode.org//wiki/Main_step_of_GOST_28147-89	http://rosettacode.org//wiki/Main_step_of_GOST_28147-89
ake directory path			http://rosettacode.org//wiki/Make_directory_path	http://rosettacode.org//wiki/Make_directory_path
an or boy test			http://rosettacode.org//wiki/Man_or_boy_test	http://rosettacode.org//wiki/Man_or_boy_test
andelbrot set			http://rosettacode.org//wiki/Mandelbrot_set	http://rosettacode.org//wiki/Mandelbrot_set
lap range			http://rosettacode.org//wiki/Map_range	http://rosettacode.org//wiki/Map_range
atrix arithmetic			http://rosettacode.org//wiki/Matrix_arithmetic	http://rosettacode.org//wiki/Matrix_arithmetic
atrix multiplication			http://rosettacode.org//wiki/Matrix_multiplication	http://rosettacode.org//wiki/Matrix_multiplication
atrix transposition			http://rosettacode.org//wiki/Matrix_transposition	http://rosettacode.org//wiki/Matrix_transposition
atrix-exponentiation operator			http://rosettacode.org//wiki/Matrix-exponentiation_operator	http://rosettacode.org//wiki/Matrix-exponentiation_operator
aximum triangle path sum			http://rosettacode.org//wiki/Maximum_triangle_path_sum	http://rosettacode.org//wiki/Maximum_triangle_path_sum
aze generation			http://rosettacode.org//wiki/Maze_generation	http://rosettacode.org//wiki/Maze_generation
aze solving			http://rosettacode.org//wiki/Maze_solving	http://rosettacode.org//wiki/Maze_solving
D4			http://rosettacode.org//wiki/MD4	http://rosettacode.org//wiki/MD4
D5			http://rosettacode.org//wiki/MD5	http://rosettacode.org//wiki/MD5
D5/Implementation			http://rosettacode.org//wiki/MD5/Implementation	http://rosettacode.org//wiki/MD5/Implementation
edian filter			http://rosettacode.org//wiki/Median_filter	http://rosettacode.org//wiki/Median_filter
emory allocation			http://rosettacode.org//wiki/Memory allocation	http://rosettacode.org//wiki/Memory allocation
emory layout of a data structure			http://rosettacode.org//wiki/Memory_layout_of_a_data_structure	http://rosettacode.org//wiki/Memory_layout_of_a_data_structure
enu			http://rosettacode.org//wiki/Menu	http://rosettacode.org//wiki/Menu
etaprogramming			http://rosettacode.org//wiki/Metaprogramming	http://rosettacode.org//wiki/Metaprogramming
etered concurrency			http://rosettacode.org//wiki/Metered concurrency	http://rosettacode.org//wiki/Metered concurrency
etronome			http://rosettacode.org//wiki/Metronome	http://rosettacode.org//wiki/Metronome
iddle three digits			http://rosettacode.org//wiki/Middle_three_digits	http://rosettacode.org//wiki/Middle_three_digits
inesweeper game			http://rosettacode.org//wiki/Minesweeper_game	http://rosettacode.org//wiki/Minesweeper_game
odular exponentiation				
odular exponentiation odular inverse			http://rosettacode.org//wiki/Modular_exponentiation	http://rosettacode.org//wiki/Modular_exponentiation
			http://rosettacode.org//wiki/Modular_inverse	http://rosettacode.org//wiki/Modular_inverse
onte Carlo methods			http://rosettacode.org//wiki/Monte_Carlo_methods	http://rosettacode.org//wiki/Monte_Carlo_methods
onty Hall problem			http://rosettacode.org//wiki/Monty_Hall_problem	http://rosettacode.org//wiki/Monty_Hall_problem
orse code			http://rosettacode.org//wiki/Morse_code	http://rosettacode.org//wiki/Morse_code
ouse position			http://rosettacode.org//wiki/Mouse_position	http://rosettacode.org//wiki/Mouse_position
ove-to-front algorithm			http://rosettacode.org//wiki/Move-to-front_algorithm	http://rosettacode.org//wiki/Move-to-front_algorithm
ultifactorial			http://rosettacode.org//wiki/Multifactorial	http://rosettacode.org//wiki/Multifactorial
ultiple distinct objects			http://rosettacode.org//wiki/Multiple_distinct_objects	http://rosettacode.org//wiki/Multiple_distinct_objects
lultiple regression			http://rosettacode.org//wiki/Multiple_regression	http://rosettacode.org//wiki/Multiple_regression
ultiplication tables			http://rosettacode.org//wiki/Multiplication_tables	http://rosettacode.org//wiki/Multiplication_tables
ultiplicative order			http://rosettacode.org//wiki/Multiplicative_order	http://rosettacode.org//wiki/Multiplicative_order
ultisplit			http://rosettacode.org//wiki/Multisplit	http://rosettacode.org//wiki/Multisplit
unching squares			http://rosettacode.org//wiki/Munching_squares	http://rosettacode.org//wiki/Munching_squares
utual recursion			http://rosettacode.org//wiki/Mutual_recursion	http://rosettacode.org//wiki/Mutual_recursion
th			http://rosettacode.org//wiki/N%27th	http://rosettacode.org//wiki/N%27th
queens problem			http://rosettacode.org//wiki/N-queens_problem	http://rosettacode.org//wiki/N-queens_problem
amed parameters			http://rosettacode.org//wiki/Named_parameters	http://rosettacode.org//wiki/Named_parameters
ming conventions			http://rosettacode.org//wiki/Naming_conventions	http://rosettacode.org//wiki/Naming_conventions
rcissist			http://rosettacode.org//wiki/Narcissist	http://rosettacode.org//wiki/Narcissist
rcissistic decimal number			http://rosettacode.org//wiki/Narcissistic_decimal_number	http://rosettacode.org//wiki/Narcissistic_decimal_number
atural sorting			http://rosettacode.org//wiki/Natural_sorting	http://rosettacode.org//wiki/Natural_sorting
autical bell			http://rosettacode.org//wiki/Nautical_bell	http://rosettacode.org//wiki/Nautical_bell
on-continuous subsequences			http://rosettacode.org//wiki/Non-continuous_subsequences	http://rosettacode.org//wiki/Non-continuous subsequences
on-decimal radices/Convert			http://rosettacode.org//wiki/Non-decimal_radices/Convert	http://rosettacode.org//wiki/Non-decimal_radices/Convert
on-decimal radices/Convert			http://rosettacode.org//wiki/Non-decimal_radices/convert	http://rosettacode.org//wiki/Non-decimal_radices/convent
on-decimal radices/Output				
lon-decimai radices/Output lonoblock			http://rosettacode.org//wiki/Non-decimal_radices/Output http://rosettacode.org//wiki/Nonoblock	http://rosettacode.org//wiki/Non-decimal_radices/Output http://rosettacode.org//wiki/Nonoblock

Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
With root	r roject bescription	Category	http://rosettacode.org//wiki/Nth_root	http://rosettacode.org//wiki/Nth_root
ull object			http://rosettacode.org/wiki/Null_object	http://rosettacode.org//wiki/Null_object
umber names			http://rosettacode.org//wiki/Number_names	http://rosettacode.org//wiki/Number_names
umber reversal game			http://rosettacode.org//wiki/Number_reversal_game	http://rosettacode.org//wiki/Number_reversal_game
umeric error propagation			http://rosettacode.org/wiki/Numeric_erversal_game	http://rosettacode.org//wiki/Numeric_error_propagation
umerical integration			http://rosettacode.org/wiki/Numerical_integration	http://rosettacode.org//wiki/Numerical_integration
•	Vuodratura			
umerical integration/Gauss-Legendre C	quadrature		http://rosettacode.org/wiki/Numerical_integration/Gauss-Legendre_Quadrature	http://rosettacode.org//wiki/Numerical_integration/Gauss-Legendre_Quadrature
bject serialization			http://rosettacode.org//wiki/Object_serialization	http://rosettacode.org//wiki/Object_serialization
dd word problem			http://rosettacode.org//wiki/Odd_word_problem	http://rosettacode.org//wiki/Odd_word_problem
ld lady swallowed a fly			http://rosettacode.org//wiki/Old_lady_swallowed_a_fly	http://rosettacode.org//wiki/Old_lady_swallowed_a_fly
LE Automation			http://rosettacode.org//wiki/OLE_Automation	http://rosettacode.org//wiki/OLE_Automation
ne of n lines in a file			http://rosettacode.org//wiki/One_of_n_lines_in_a_file	http://rosettacode.org//wiki/One_of_n_lines_in_a_file
ne-dimensional cellular automata			http://rosettacode.org//wiki/One-dimensional_cellular_automata	http://rosettacode.org//wiki/One-dimensional_cellular_automata
penGL			http://rosettacode.org//wiki/OpenGL	http://rosettacode.org//wiki/OpenGL
perator precedence			http://rosettacode.org//wiki/Operator_precedence	http://rosettacode.org//wiki/Operator_precedence
ptional parameters			http://rosettacode.org//wiki/Optional_parameters	http://rosettacode.org//wiki/Optional_parameters
rder disjoint list items			http://rosettacode.org//wiki/Order_disjoint_list_items	http://rosettacode.org//wiki/Order_disjoint_list_items
rder two numerical lists			http://rosettacode.org//wiki/Order_two_numerical_lists	http://rosettacode.org//wiki/Order_two_numerical_lists
rdered Partitions			http://rosettacode.org//wiki/Ordered_Partitions	http://rosettacode.org//wiki/Ordered_Partitions
rdered words			http://rosettacode.org//wiki/Ordered_words	http://rosettacode.org//wiki/Ordered_words
alindrome detection			http://rosettacode.org//wiki/Palindrome_detection	http://rosettacode.org//wiki/Palindrome_detection
angram checker			http://rosettacode.org//wiki/Pangram_checker	http://rosettacode.org//wiki/Pangram_checker
araffins			http://rosettacode.org//wiki/Paraffins	http://rosettacode.org//wiki/Paraffins
arallel calculations			http://rosettacode.org//wiki/Parallel_calculations	http://rosettacode.org//wiki/Parallel_calculations
arametric polymorphism			http://rosettacode.org//wiki/Parametric_polymorphism	http://rosettacode.org//wiki/Parametric_polymorphism
arametrized SQL statement			http://rosettacode.org//wiki/Parametrized SQL statement	http://rosettacode.org//wiki/Parametrized SQL statement
arse an IP Address			http://rosettacode.org//wiki/Parse an IP Address	http://rosettacode.org//wiki/Parse an IP Address
arsing/RPN calculator algorithm			http://rosettacode.org//wiki/Parsing/RPN_calculator_algorithm	http://rosettacode.org//wiki/Parsing/RPN_calculator_algorithm
arsing/RPN to infix conversion			http://rosettacode.org//wiki/Parsing/RPN to infix conversion	http://rosettacode.org//wiki/Parsing/RPN to infix conversion
arsing/Shunting-yard algorithm			http://rosettacode.org//wiki/Parsing/Shunting-yard_algorithm	http://rosettacode.org//wiki/Parsing/Shunting-yard_algorithm
artial function application			http://rosettacode.org//wiki/Partial function application	http://rosettacode.org//wiki/Partial function application
ascal matrix generation			http://rosettacode.org/wiki/Pascal_matrix_generation	http://rosettacode.org//wiki/Pascal_matrix_generation
ascal's triangle				http://rosettacode.org//wiki/Pascal%27s_triangle
			http://rosettacode.org//wiki/Pascal%27s_triangle	
ascal's triangle/Puzzle			http://rosettacode.org//wiki/Pascal%27s_triangle/Puzzle	http://rosettacode.org//wiki/Pascal%27s_triangle/Puzzle
attern matching			http://rosettacode.org//wiki/Pattern_matching	http://rosettacode.org//wiki/Pattern_matching
enney's game			http://rosettacode.org//wiki/Penney%27s_game	http://rosettacode.org//wiki/Penney%27s_game
ercentage difference between images			http://rosettacode.org//wiki/Percentage_difference_between_images	http://rosettacode.org//wiki/Percentage_difference_between_images
ercolation/Bond percolation			http://rosettacode.org//wiki/Percolation/Bond_percolation	http://rosettacode.org//wiki/Percolation/Bond_percolation
ercolation/Mean cluster density			http://rosettacode.org//wiki/Percolation/Mean_cluster_density	http://rosettacode.org//wiki/Percolation/Mean_cluster_density
ercolation/Mean run density			http://rosettacode.org//wiki/Percolation/Mean_run_density	http://rosettacode.org//wiki/Percolation/Mean_run_density
ercolation/Site percolation			http://rosettacode.org//wiki/Percolation/Site_percolation	http://rosettacode.org//wiki/Percolation/Site_percolation
erfect numbers			http://rosettacode.org//wiki/Perfect_numbers	http://rosettacode.org//wiki/Perfect_numbers
ermutation test			http://rosettacode.org//wiki/Permutation_test	http://rosettacode.org//wiki/Permutation_test
ermutations			http://rosettacode.org//wiki/Permutations	http://rosettacode.org//wiki/Permutations
ermutations by swapping			http://rosettacode.org//wiki/Permutations_by_swapping	http://rosettacode.org//wiki/Permutations_by_swapping
ermutations/Derangements			http://rosettacode.org//wiki/Permutations/Derangements	http://rosettacode.org//wiki/Permutations/Derangements
rmutations/Rank of a permutation			http://rosettacode.org//wiki/Permutations/Rank_of_a_permutation	http://rosettacode.org//wiki/Permutations/Rank_of_a_permutation
ernicious numbers			http://rosettacode.org//wiki/Pernicious_numbers	http://rosettacode.org//wiki/Pernicious_numbers
nrase reversals			http://rosettacode.org//wiki/Phrase_reversals	http://rosettacode.org//wiki/Phrase_reversals
ı			http://rosettacode.org//wiki/Pi	http://rosettacode.org//wiki/Pi
ick random element			http://rosettacode.org//wiki/Pick_random_element	http://rosettacode.org//wiki/Pick_random_element
ig the dice game			http://rosettacode.org//wiki/Pig_the_dice_game	http://rosettacode.org//wiki/Pig the dice game
ig the dice game/Player			http://rosettacode.org//wiki/Pig_the_dice_game/Player	http://rosettacode.org//wiki/Pig the dice game/Player
instripe/Display			http://rosettacode.org//wiki/Pinstripe/Display	http://rosettacode.org//wiki/Pinstripe/Display
Pinstripe/Printer			http://rosettacode.org/wiki/Pinstripe/Printer	http://rosettacode.org//wiki/Pinstripe/Printer

http://www.linuxtraining	academy.com			
Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
Play recorded sounds			http://rosettacode.org//wiki/Play_recorded_sounds	http://rosettacode.org//wiki/Play_recorded_sounds
Playing cards			http://rosettacode.org//wiki/Playing_cards	http://rosettacode.org//wiki/Playing_cards
Plot coordinate pairs			http://rosettacode.org//wiki/Plot_coordinate_pairs	http://rosettacode.org//wiki/Plot_coordinate_pairs
Pointers and references			http://rosettacode.org//wiki/Pointers_and_references_	http://rosettacode.org//wiki/Pointers_and_references_
Polymorphic copy			http://rosettacode.org//wiki/Polymorphic_copy	http://rosettacode.org//wiki/Polymorphic_copy
Polymorphism			http://rosettacode.org//wiki/Polymorphism	http://rosettacode.org//wiki/Polymorphism
Polynomial long division			http://rosettacode.org//wiki/Polynomial long division	http://rosettacode.org//wiki/Polynomial_long_division
Polynomial regression			http://rosettacode.org//wiki/Polynomial_regression	http://rosettacode.org//wiki/Polynomial_regression
Power set			http://rosettacode.org//wiki/Power_set	http://rosettacode.org//wiki/Power_set
Pragmatic directives			http://rosettacode.org//wiki/Pragmatic_directives	http://rosettacode.org//wiki/Pragmatic_directives
Price fraction			http://rosettacode.org//wiki/Price_fraction	http://rosettacode.org//wiki/Price_fraction
Primality by trial division			http://rosettacode.org//wiki/Primality_by_trial_division	http://rosettacode.org//wiki/Primality_by_trial_division
Prime decomposition			http://rosettacode.org/wiki/Prime_decomposition	http://rosettacode.org//wiki/Prime_decomposition
Primes - allocate descendants to the	air angestore		http://rosettacode.org/wiki/Primes - allocate descendants to their ancestors	http://rosettacode.org//wiki/Primes - allocate descendants to their ancestors
Primorial numbers	en ancestors		http://rosettacode.org/wiki/Primorial_numbers	http://rosettacode.org//wiki/Primorial numbers
Priority queue			http://rosettacode.org//wiki/Priority_queue	http://rosettacode.org//wiki/Priority_queue
Probabilistic choice			http://rosettacode.org//wiki/Probabilistic_choice	http://rosettacode.org//wiki/Probabilistic_choice
Problem of Apollonius			http://rosettacode.org//wiki/Problem_of_Apollonius	http://rosettacode.org//wiki/Problem_of_Apollonius
Program name			http://rosettacode.org//wiki/Program_name	http://rosettacode.org//wiki/Program_name
Program termination			http://rosettacode.org//wiki/Program_termination	http://rosettacode.org//wiki/Program_termination
Pythagorean triples			http://rosettacode.org//wiki/Pythagorean_triples	http://rosettacode.org//wiki/Pythagorean_triples
QR decomposition			http://rosettacode.org//wiki/QR_decomposition	http://rosettacode.org//wiki/QR_decomposition
Quaternion type			http://rosettacode.org//wiki/Quaternion_type	http://rosettacode.org//wiki/Quaternion_type
Queue/Definition			http://rosettacode.org//wiki/Queue/Definition	http://rosettacode.org//wiki/Queue/Definition
Queue/Usage			http://rosettacode.org//wiki/Queue/Usage	http://rosettacode.org//wiki/Queue/Usage
Quickselect algorithm			http://rosettacode.org//wiki/Quickselect_algorithm	http://rosettacode.org//wiki/Quickselect_algorithm
Quine			http://rosettacode.org//wiki/Quine	http://rosettacode.org//wiki/Quine
Random number generator (device)			http://rosettacode.org//wiki/Random_number_generator_(device)	http://rosettacode.org//wiki/Random_number_generator_(device)
Random number generator (included	d)		http://rosettacode.org//wiki/Random_number_generator_(included)	http://rosettacode.org//wiki/Random_number_generator_(included)
Random numbers			http://rosettacode.org//wiki/Random_numbers	http://rosettacode.org//wiki/Random_numbers
Range expansion			http://rosettacode.org//wiki/Range_expansion	http://rosettacode.org//wiki/Range_expansion
Range extraction			http://rosettacode.org//wiki/Range_extraction	http://rosettacode.org//wiki/Range_extraction
Ranking methods			http://rosettacode.org//wiki/Ranking_methods	http://rosettacode.org//wiki/Ranking_methods
Rate counter			http://rosettacode.org//wiki/Rate_counter	http://rosettacode.org//wiki/Rate_counter
Ray-casting algorithm			http://rosettacode.org//wiki/Ray-casting_algorithm	http://rosettacode.org//wiki/Ray-casting_algorithm
RCRPG			http://rosettacode.org//wiki/RCRPG	http://rosettacode.org//wiki/RCRPG
Read a configuration file			http://rosettacode.org//wiki/Read_a_configuration_file	http://rosettacode.org//wiki/Read_a_configuration_file
Read a file line by line			http://rosettacode.org//wiki/Read_a_file_line_by_line	http://rosettacode.org//wiki/Read_a_file_line_by_line
Read a specific line from a file			http://rosettacode.org//wiki/Read_a_specific_line_from_a_file	http://rosettacode.org//wiki/Read_a_specific_line_from_a_file
Read entire file			http://rosettacode.org//wiki/Read_entire_file	http://rosettacode.org//wiki/Read_entire_file
Real constants and functions			http://rosettacode.org//wiki/Real_constants_and_functions	http://rosettacode.org//wiki/Real_constants_and_functions
Record sound			http://rosettacode.org//wiki/Record_sound	http://rosettacode.org//wiki/Record_sound
Reduced row echelon form			http://rosettacode.org//wiki/Reduced_row_echelon_form	http://rosettacode.org//wiki/Reduced_row_echelon_form
Regular expressions			http://rosettacode.org//wiki/Regular expressions	http://rosettacode.org//wiki/Regular_expressions
Remove duplicate elements			http://rosettacode.org//wiki/Remove_duplicate_elements	http://rosettacode.org//wiki/Remove_duplicate_elements
Remove lines from a file			http://rosettacode.org//wiki/Remove_lines_from_a_file	http://rosettacode.org//wiki/Remove lines from a file
Rename a file			http://rosettacode.org//wiki/Rename a file	http://rosettacode.org//wiki/Rename a file
Rendezvous			http://rosettacode.org/wiki/Rendezvous	http://rosettacode.org//wiki/Rendezvous
Rep-string			http://rosettacode.org//wiki/Rep-string	http://rosettacode.org//wiki/Rep-string
· · ·				
Repeat a string			http://rosettacode.org//wiki/Repeat_a_string	http://rosettacode.org//wiki/Repeat_a_string
Resistor mesh			http://rosettacode.org//wiki/Resistor_mesh	http://rosettacode.org//wiki/Resistor_mesh
Respond to an unknown method call	I		http://rosettacode.org//wiki/Respond_to_an_unknown_method_call	http://rosettacode.org//wiki/Respond_to_an_unknown_method_call
Return multiple values			http://rosettacode.org//wiki/Return_multiple_values	http://rosettacode.org//wiki/Return_multiple_values
Reverse a string			http://rosettacode.org//wiki/Reverse_a_string	http://rosettacode.org//wiki/Reverse_a_string
Reverse words in a string			http://rosettacode.org//wiki/Reverse_words_in_a_string	http://rosettacode.org//wiki/Reverse_words_in_a_string

Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
RIPEMD-160	Froject Description	Category	http://rosettacode.org//wiki/RIPEMD-160	http://rosettacode.org//wiki/RIPEMD-160
Rock-paper-scissors			http://rosettacode.org//wiki/Rock-paper-scissors	http://rosettacode.org//wiki/Rock-paper-scissors
Roman numerals/Decode			http://rosettacode.org//wiki/Roman_numerals/Decode	http://rosettacode.org//wiki/Roman_numerals/Decode
Roman numerals/Encode			http://rosettacode.org//wiki/Roman_numerals/Encode	http://rosettacode.org//wiki/Roman_numerals/Encode
Roots of a function			http://rosettacode.org//wiki/Roots_of_a_function	http://rosettacode.org//wiki/Roots_of_a_function
Roots of a quadratic function			http://rosettacode.org//wiki/Roots_of_a_function	http://rosettacode.org//wiki/Roots_of_a_quadratic_function
Roots of unity			http://rosettacode.org//wiki/Roots_of_a_quadratic_function	http://rosettacode.org//wiki/Roots_or_a_quadratic_turiction
Rosetta Code/Count examples			http://rosettacode.org//wiki/Rosetta_Code/Count_examples	http://rosettacode.org//wiki/Rosetta_Code/Count_examples
losetta Code/Find bare lang tags losetta Code/Find unimplemented tasks			http://rosettacode.org//wiki/Rosetta Code/Find bare lang tags http://rosettacode.org//wiki/Rosetta Code/Find unimplemented tasks	http://rosettacode.org//wiki/Rosetta_Code/Find_bare_lang_tags
			· · · · · · · · · · · · · · · · · · ·	http://rosettacode.org//wiki/Rosetta_Code/Find_unimplemented_tasks
tosetta Code/Fix code tags	.,		http://rosettacode.org//wiki/Rosetta_Code/Fix_code_tags	http://rosettacode.org//wiki/Rosetta_Code/Fix_code_tags
tosetta Code/Rank languages by popula	irity		http://rosettacode.org//wiki/Rosetta_Code/Rank_languages_by_popularity	http://rosettacode.org//wiki/Rosetta_Code/Rank_languages_by_popularity
Rot-13			http://rosettacode.org//wiki/Rot-13	http://rosettacode.org//wiki/Rot-13
SA code			http://rosettacode.org//wiki/RSA_code	http://rosettacode.org//wiki/RSA_code
Run-length encoding			http://rosettacode.org//wiki/Run-length_encoding	http://rosettacode.org//wiki/Run-length_encoding
unge-Kutta method			http://rosettacode.org//wiki/Runge-Kutta_method	http://rosettacode.org//wiki/Runge-Kutta_method
untime evaluation			http://rosettacode.org//wiki/Runtime_evaluation	http://rosettacode.org//wiki/Runtime_evaluation
Runtime evaluation/In an environment			http://rosettacode.org//wiki/Runtime_evaluation/ln_an_environment	http://rosettacode.org//wiki/Runtime_evaluation/In_an_environment
-Expressions			http://rosettacode.org//wiki/S-Expressions	http://rosettacode.org//wiki/S-Expressions
afe addition			http://rosettacode.org//wiki/Safe_addition	http://rosettacode.org//wiki/Safe_addition
ailors, coconuts and a monkey problem			http://rosettacode.org/wiki/Sailors,_coconuts_and_a_monkey_problem	http://rosettacode.org/wiki/Sailors,_coconuts_and_a_monkey_problem
ame Fringe			http://rosettacode.org//wiki/Same_Fringe	http://rosettacode.org//wiki/Same_Fringe
cope modifiers			http://rosettacode.org//wiki/Scope_modifiers	http://rosettacode.org//wiki/Scope_modifiers
cope/Function names and labels			http://rosettacode.org//wiki/Scope/Function_names_and_labels	http://rosettacode.org//wiki/Scope/Function_names_and_labels
earch a list			http://rosettacode.org//wiki/Search_a_list	http://rosettacode.org//wiki/Search_a_list
Secure temporary file			http://rosettacode.org//wiki/Secure_temporary_file	http://rosettacode.org//wiki/Secure_temporary_file
EDOLs			http://rosettacode.org//wiki/SEDOLs	http://rosettacode.org//wiki/SEDOLs
elf-describing numbers			http://rosettacode.org//wiki/Self-describing_numbers	http://rosettacode.org//wiki/Self-describing_numbers
elf-referential sequence			http://rosettacode.org//wiki/Self-referential_sequence	http://rosettacode.org//wiki/Self-referential_sequence
emiprime			http://rosettacode.org//wiki/Semiprime	http://rosettacode.org//wiki/Semiprime
Semordnilap			http://rosettacode.org//wiki/Semordnilap	http://rosettacode.org//wiki/Semordnilap
end an unknown method call			http://rosettacode.org//wiki/Send_an_unknown_method_call	http://rosettacode.org//wiki/Send an unknown method call
end email			http://rosettacode.org//wiki/Send_email	http://rosettacode.org//wiki/Send_email
equence of non-squares			http://rosettacode.org//wiki/Sequence_of_non-squares	http://rosettacode.org//wiki/Sequence_of_non-squares
sequence of primes by Trial Division			http://rosettacode.org//wiki/Sequence of primes by Trial Division	http://rosettacode.org//wiki/Sequence of primes by Trial Division
set			http://rosettacode.org//wiki/Set	http://rosettacode.org//wiki/Set
et consolidation			http://rosettacode.org//wiki/Set_consolidation	http://rosettacode.org//wiki/Set_consolidation
Set of real numbers			http://rosettacode.org//wiki/Set_consolidation	http://rosettacode.org//wiki/Set_consolidation http://rosettacode.org//wiki/Set_of_real_numbers
et puzzle			http://rosettacode.org//wiki/Set_puzzle	http://rosettacode.org//wiki/Set_buzzle
set puzzle seven-sided dice from five-sided dice			http://rosettacode.org//wiki/Seven-sided dice from five-sided dice	http://rosettacode.org//wiki/Seven-sided dice from five-sided dice
SHA-1				
HA-1 HA-256			http://rosettacode.org//wiki/SHA-1	http://rosettacode.org//wiki/SHA-1
			http://rosettacode.org//wiki/SHA-256	http://rosettacode.org//wiki/SHA-256
hell one-liner			http://rosettacode.org//wiki/Shell_one-liner	http://rosettacode.org//wiki/Shell_one-liner
hort-circuit evaluation			http://rosettacode.org//wiki/Short-circuit_evaluation	http://rosettacode.org//wiki/Short-circuit_evaluation
how the epoch			http://rosettacode.org//wiki/Show_the_epoch	http://rosettacode.org//wiki/Show_the_epoch
ierpinski carpet			http://rosettacode.org//wiki/Sierpinski_carpet	http://rosettacode.org//wiki/Sierpinski_carpet
ierpinski triangle			http://rosettacode.org//wiki/Sierpinski_triangle	http://rosettacode.org//wiki/Sierpinski_triangle
ierpinski triangle/Graphical			http://rosettacode.org//wiki/Sierpinski_triangle/Graphical	http://rosettacode.org//wiki/Sierpinski_triangle/Graphical
ieve of Eratosthenes			http://rosettacode.org//wiki/Sieve_of_Eratosthenes	http://rosettacode.org//wiki/Sieve_of_Eratosthenes
Simple database			http://rosettacode.org//wiki/Simple_database	http://rosettacode.org//wiki/Simple_database
Simple windowed application			http://rosettacode.org//wiki/Simple_windowed_application	http://rosettacode.org//wiki/Simple_windowed_application
Simulate input/Keyboard			http://rosettacode.org//wiki/Simulate_input/Keyboard	http://rosettacode.org//wiki/Simulate_input/Keyboard
Simulate input/Mouse			http://rosettacode.org//wiki/Simulate_input/Mouse	http://rosettacode.org//wiki/Simulate_input/Mouse
Simulate input/Mouse				

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Project Name Project Descri	ption Category	Link to Project Description	Link to Project Solution	
Singly-linked list/Element insertion		http://rosettacode.org//wiki/Singly-linked_list/Element_insertion	http://rosettacode.org//wiki/Singly-linked_list/Element_insertion	
Singly-linked list/Traversal		http://rosettacode.org//wiki/Singly-linked_list/Traversal	http://rosettacode.org//wiki/Singly-linked_list/Traversal	
Sleep		http://rosettacode.org//wiki/Sleep	http://rosettacode.org//wiki/Sleep	
SOAP		http://rosettacode.org//wiki/SOAP	http://rosettacode.org//wiki/SOAP	
Sockets		http://rosettacode.org//wiki/Sockets	http://rosettacode.org//wiki/Sockets	
Sokoban		http://rosettacode.org//wiki/Sokoban	http://rosettacode.org//wiki/Sokoban	
Solve a Hidato puzzle		http://rosettacode.org//wiki/Solve_a_Hidato_puzzle	http://rosettacode.org//wiki/Solve_a_Hidato_puzzle	
Solve a Holy Knight's tour		http://rosettacode.org//wiki/Solve_a_Holy_Knight%27s_tour	http://rosettacode.org//wiki/Solve_a_Holy_Knight%27s_tour	
Solve a Hopido puzzle		http://rosettacode.org//wiki/Solve_a_Hopido_puzzle	http://rosettacode.org//wiki/Solve_a_Hopido_puzzle	
Solve a Numbrix puzzle		http://rosettacode.org//wiki/Solve_a_Numbrix_puzzle	http://rosettacode.org//wiki/Solve_a_Numbrix_puzzle	
Solve the no connection puzzle		http://rosettacode.org//wiki/Solve_the_no_connection_puzzle	http://rosettacode.org//wiki/Solve_the_no_connection_puzzle	
Sort an array of composite structures		http://rosettacode.org//wiki/Sort_an_array_of_composite_structures	http://rosettacode.org//wiki/Sort_an_array_of_composite_structures	
Sort an integer array		http://rosettacode.org//wiki/Sort_an_integer_array	http://rosettacode.org//wiki/Sort_an_integer_array	
Fort disjoint sublist		http://rosettacode.org//wiki/Sort_disjoint_sublist	http://rosettacode.org//wiki/Sort_disjoint_sublist	
Fort stability		http://rosettacode.org//wiki/Sort_stability	http://rosettacode.org//wiki/Sort_stability	
Fort using a custom comparator		http://rosettacode.org//wiki/Sort using a custom comparator	http://rosettacode.org//wiki/Sort using a custom comparator	
Sorting algorithms/Bead sort		http://rosettacode.org//wiki/Sorting_algorithms/Bead_sort	http://rosettacode.org//wiki/Sorting_algorithms/Bead_sort	
Sorting algorithms/Bogosort		http://rosettacode.org//wiki/Sorting_algorithms/Bogosort	http://rosettacode.org//wiki/Sorting_algorithms/Bogosort	
Sorting algorithms/Bubble sort		http://rosettacode.org//wiki/Sorting_algorithms/Bubble_sort	http://rosettacode.org//wiki/Sorting_algorithms/Bubble_sort	
Sorting algorithms/Cocktail sort		http://rosettacode.org//wiki/Sorting_algorithms/Bubble_sort	http://rosettacode.org//wiki/Sorting_algorithms/Cocktail_sort	
Sorting algorithms/Comb sort		http://rosettacode.org//wiki/Sorting_algorithms/Comb_sort	http://rosettacode.org//wiki/Sorting_algorithms/Comb_sort	
Sorting algorithms/Counting sort		http://rosettacode.org//wiki/Sorting_algorithms/Counting_sort	http://rosettacode.org//wiki/Sorting_algorithms/Counting_sort	
Sorting algorithms/Counting sort		http://rosettacode.org//wiki/Sorting_algorithms/Gnome_sort	http://rosettacode.org//wiki/Sorting_algorithms/Counting_sort	
orting algorithms/Heapsort		http://rosettacode.org//wiki/Sorting_algorithms/Heapsort	http://rosettacode.org//wiki/Sorting_algorithms/Heapsort	
Sorting algorithms/Insertion sort		http://rosettacode.org//wiki/Sorting_algorithms/Insertion_sort	http://rosettacode.org//wiki/Sorting_algorithms/Insertion_sort	
Sorting algorithms/Merge sort		http://rosettacode.org//wiki/Sorting_algorithms/Merge_sort	http://rosettacode.org//wiki/Sorting_algorithms/Merge_sort	
Sorting algorithms/Pancake sort		http://rosettacode.org//wiki/Sorting_algorithms/Pancake_sort	http://rosettacode.org//wiki/Sorting_algorithms/Pancake_sort	
Sorting algorithms/Permutation sort		http://rosettacode.org//wiki/Sorting_algorithms/Permutation_sort	http://rosettacode.org//wiki/Sorting_algorithms/Permutation_sort	
Sorting algorithms/Quicksort		http://rosettacode.org//wiki/Sorting_algorithms/Quicksort	http://rosettacode.org//wiki/Sorting_algorithms/Quicksort	
Sorting algorithms/Radix sort		http://rosettacode.org//wiki/Sorting_algorithms/Radix_sort	http://rosettacode.org//wiki/Sorting_algorithms/Radix_sort	
Sorting algorithms/Selection sort		http://rosettacode.org//wiki/Sorting_algorithms/Selection_sort	http://rosettacode.org//wiki/Sorting_algorithms/Selection_sort	
Sorting algorithms/Shell sort		http://rosettacode.org//wiki/Sorting_algorithms/Shell_sort	http://rosettacode.org//wiki/Sorting_algorithms/Shell_sort	
Sorting algorithms/Sleep sort		http://rosettacode.org//wiki/Sorting_algorithms/Sleep_sort	http://rosettacode.org//wiki/Sorting_algorithms/Sleep_sort	
Sorting algorithms/Stooge sort		http://rosettacode.org//wiki/Sorting_algorithms/Stooge_sort	http://rosettacode.org//wiki/Sorting_algorithms/Stooge_sort	
Sorting algorithms/Strand sort		http://rosettacode.org//wiki/Sorting_algorithms/Strand_sort	http://rosettacode.org//wiki/Sorting_algorithms/Strand_sort	
Soundex		http://rosettacode.org//wiki/Soundex	http://rosettacode.org//wiki/Soundex	
Sparkline in unicode		http://rosettacode.org//wiki/Sparkline_in_unicode	http://rosettacode.org//wiki/Sparkline_in_unicode	
Special characters		http://rosettacode.org//wiki/Special_characters	http://rosettacode.org//wiki/Special_characters	
pecial variables		http://rosettacode.org//wiki/Special_variables	http://rosettacode.org//wiki/Special_variables	
Speech synthesis		http://rosettacode.org//wiki/Speech_synthesis	http://rosettacode.org//wiki/Speech_synthesis	
Spiral matrix		http://rosettacode.org//wiki/Spiral_matrix	http://rosettacode.org//wiki/Spiral_matrix	
QL-based authentication		http://rosettacode.org//wiki/SQL-based_authentication	http://rosettacode.org//wiki/SQL-based_authentication	
Stable marriage problem		http://rosettacode.org//wiki/Stable_marriage_problem	http://rosettacode.org//wiki/Stable_marriage_problem	
Stack		http://rosettacode.org//wiki/Stack	http://rosettacode.org//wiki/Stack	
Stack traces		http://rosettacode.org//wiki/Stack_traces	http://rosettacode.org//wiki/Stack_traces	
Stair-climbing puzzle		http://rosettacode.org//wiki/Stair-climbing_puzzle	http://rosettacode.org//wiki/Stair-climbing_puzzle	
tandard deviation		http://rosettacode.org//wiki/Standard_deviation	http://rosettacode.org//wiki/Standard_deviation	
tart from a main routine		http://rosettacode.org//wiki/Start from a main routine	http://rosettacode.org//wiki/Start_from_a_main_routine	
itate name puzzle		http://rosettacode.org//wiki/State_name_puzzle	http://rosettacode.org//wiki/State_name_puzzle	
Statistics/Basic		http://rosettacode.org//wiki/Statistics/Basic	http://rosettacode.org//wiki/Statistics/Basic	
Statistics/Normal distribution		http://rosettacode.org//wiki/Statistics/Normal distribution	http://rosettacode.org//wiki/Statistics/Normal_distribution	
Stem-and-leaf plot		http://rosettacode.org//wiki/Stem-and-leaf_plot	http://rosettacode.org//wiki/Stem-and-leaf_plot	
Stern-Brocot sequence		http://rosettacode.org//wiki/Stern-Brocot sequence	http://rosettacode.org//wiki/Stern-Brocot_sequence	
String append				
String append String case		http://rosettacode.org//wiki/String_append http://rosettacode.org//wiki/String_case	http://rosettacode.org//wiki/String_append http://rosettacode.org//wiki/String_case	

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Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
String comparison			http://rosettacode.org//wiki/String_comparison	http://rosettacode.org//wiki/String_comparison
String concatenation			http://rosettacode.org//wiki/String_concatenation	http://rosettacode.org//wiki/String_concatenation
String interpolation (included)			http://rosettacode.org//wiki/String_interpolation_(included)	http://rosettacode.org//wiki/String_interpolation_(included)
String length			http://rosettacode.org//wiki/String_length	http://rosettacode.org//wiki/String_length
String matching			http://rosettacode.org//wiki/String_matching	http://rosettacode.org//wiki/String_matching
String prepend			http://rosettacode.org//wiki/String_prepend	http://rosettacode.org//wiki/String_prepend
Strip a set of characters from a string			http://rosettacode.org//wiki/Strip a set of characters from a string	http://rosettacode.org//wiki/Strip a set of characters from a string
Strip block comments			http://rosettacode.org//wiki/Strip_block_comments	http://rosettacode.org//wiki/Strip_block_comments
Strip comments from a string			http://rosettacode.org//wiki/Strip comments from a string	http://rosettacode.org//wiki/Strip comments from a string
Strip control codes and extended char	acters from a string		http://rosettacode.org//wiki/Strip control codes and extended characters from a string	http://rosettacode.org//wiki/Strip control codes and extended characters from a string
Strip whitespace from a string/Top and			http://rosettacode.org//wiki/Strip whitespace from a string/Top and tail	http://rosettacode.org//wiki/Strip whitespace from a string/Top and tail
Subleq			http://rosettacode.org//wiki/Subleg	http://rosettacode.org//wiki/Subleg
Substring			http://rosettacode.org//wiki/Substring	http://rosettacode.org//wiki/Substring
Substring/Top and tail			http://rosettacode.org/wiki/Substring/Top and tail	http://rosettacode.org//wiki/Substring/Top and tail
Subtractive generator			http://rosettacode.org//wiki/Subtractive_generator	http://rosettacode.org//wiki/Subtractive_generator
Sudoku Sudoku			http://rosettacode.org//wiki/Subtractive_generator	http://rosettacode.org//wiki/Sudoku
Sum and product of an array				
Sum and product of an array Sum digits of an integer			http://rosettacode.org//wiki/Sum_and_product_of_an_array	http://rosettacode.org//wiki/Sum_and_product_of_an_array
			http://rosettacode.org//wiki/Sum_digits_of_an_integer	http://rosettacode.org//wiki/Sum_digits_of_an_integer
Sum multiples of 3 and 5			http://rosettacode.org//wiki/Sum_multiples_of_3_and_5	http://rosettacode.org//wiki/Sum_multiples_of_3_and_5
Sum of a series			http://rosettacode.org//wiki/Sum_of_a_series	http://rosettacode.org//wiki/Sum_of_a_series
Sum of squares			http://rosettacode.org//wiki/Sum_of_squares	http://rosettacode.org//wiki/Sum_of_squares
Sutherland-Hodgman polygon clipping	1		http://rosettacode.org//wiki/Sutherland-Hodgman_polygon_clipping	http://rosettacode.org//wiki/Sutherland-Hodgman_polygon_clipping
Symmetric difference			http://rosettacode.org//wiki/Symmetric_difference	http://rosettacode.org//wiki/Symmetric_difference
Synchronous concurrency			http://rosettacode.org//wiki/Synchronous_concurrency	http://rosettacode.org//wiki/Synchronous_concurrency
System time			http://rosettacode.org//wiki/System_time	http://rosettacode.org//wiki/System_time
Table creation/Postal addresses			http://rosettacode.org//wiki/Table_creation/Postal_addresses	http://rosettacode.org//wiki/Table_creation/Postal_addresses
Take notes on the command line			http://rosettacode.org//wiki/Take_notes_on_the_command_line	http://rosettacode.org//wiki/Take_notes_on_the_command_line
Temperature conversion			http://rosettacode.org//wiki/Temperature_conversion	http://rosettacode.org//wiki/Temperature_conversion
Terminal control/Clear the screen			http://rosettacode.org//wiki/Terminal_control/Clear_the_screen	http://rosettacode.org//wiki/Terminal_control/Clear_the_screen
Terminal control/Coloured text			http://rosettacode.org//wiki/Terminal_control/Coloured_text	http://rosettacode.org//wiki/Terminal_control/Coloured_text
Terminal control/Cursor movement			http://rosettacode.org//wiki/Terminal_control/Cursor_movement	http://rosettacode.org//wiki/Terminal_control/Cursor_movement
Terminal control/Cursor positioning			http://rosettacode.org//wiki/Terminal_control/Cursor_positioning	http://rosettacode.org//wiki/Terminal_control/Cursor_positioning
Terminal control/Dimensions			http://rosettacode.org//wiki/Terminal_control/Dimensions	http://rosettacode.org//wiki/Terminal_control/Dimensions
Terminal control/Display an extended	character		http://rosettacode.org//wiki/Terminal_control/Display_an_extended_character	http://rosettacode.org//wiki/Terminal_control/Display_an_extended_character
Terminal control/Hiding the cursor			http://rosettacode.org//wiki/Terminal_control/Hiding_the_cursor	http://rosettacode.org//wiki/Terminal_control/Hiding_the_cursor
Terminal control/Inverse video			http://rosettacode.org//wiki/Terminal_control/Inverse_video	http://rosettacode.org//wiki/Terminal_control/Inverse_video
Terminal control/Positional read			http://rosettacode.org//wiki/Terminal_control/Positional_read	http://rosettacode.org//wiki/Terminal_control/Positional_read
Terminal control/Preserve screen			http://rosettacode.org//wiki/Terminal_control/Preserve_screen	http://rosettacode.org//wiki/Terminal_control/Preserve_screen
Terminal control/Ringing the terminal I	bell		http://rosettacode.org//wiki/Terminal_control/Ringing_the_terminal_bell	http://rosettacode.org//wiki/Terminal_control/Ringing_the_terminal_bell
Terminal control/Unicode output			http://rosettacode.org//wiki/Terminal_control/Unicode_output	http://rosettacode.org//wiki/Terminal_control/Unicode_output
Ternary logic			http://rosettacode.org//wiki/Ternary_logic	http://rosettacode.org//wiki/Ternary_logic
Test a function			http://rosettacode.org//wiki/Test_a_function	http://rosettacode.org//wiki/Test_a_function
Text processing/1			http://rosettacode.org//wiki/Text_processing/1	http://rosettacode.org//wiki/Text_processing/1
Text processing/2			http://rosettacode.org//wiki/Text_processing/2	http://rosettacode.org//wiki/Text_processing/2
Text processing/Max licenses in use			http://rosettacode.org//wiki/Text_processing/Max_licenses_in_use	http://rosettacode.org//wiki/Text_processing/Max_licenses_in_use
Textonyms			http://rosettacode.org//wiki/Textonyms	http://rosettacode.org//wiki/Textonyms
The ISAAC Cipher			http://rosettacode.org//wiki/The ISAAC Cipher	http://rosettacode.org//wiki/The ISAAC Cipher
The Twelve Days of Christmas			http://rosettacode.org//wiki/The Twelve Days of Christmas	http://rosettacode.org//wiki/The_Twelve_Days_of_Christmas
Thiele's interpolation formula			http://rosettacode.org//wiki/Thiele%27s_interpolation_formula	http://rosettacode.org//wiki/Thiele%27s_interpolation_formula
Thue-Morse			http://rosettacode.org//wiki/Thue-Morse	http://rosettacode.org//wiki/Thue-Morse
Tic-tac-toe			http://rosettacode.org//wiki/Tic-tac-toe	http://rosettacode.org//wiki/Tric-tac-toe
Time a function			http://rosettacode.org//wiki/Time_a_function	http://rosettacode.org//wiki/Time_a_function
Tokenize a string			http://rosettacode.org//wiki/Tokenize_a_string	http://rosettacode.org//wiki/Tokenize_a_string
Top rank per group			http://rosettacode.org//wiki/Top_rank_per_group	http://rosettacode.org//wiki/Top_rank_per_group
Topic variable			http://rosettacode.org//wiki/Topic_variable	http://rosettacode.org//wiki/Topic_variable

Project Name	Project Description	Catamami	Link to Project Description	Link to Decidat Colution
•	Project Description	Category	Link to Project Description	Link to Project Solution
Topological sort			http://rosettacode.org//wiki/Topological_sort	http://rosettacode.org//wiki/Topological_sort
Topswops			http://rosettacode.org//wiki/Topswops	http://rosettacode.org//wiki/Topswops
Total circles area			http://rosettacode.org//wiki/Total_circles_area	http://rosettacode.org//wiki/Total_circles_area
Towers of Hanoi			http://rosettacode.org//wiki/Towers_of_Hanoi	http://rosettacode.org//wiki/Towers_of_Hanoi
Tree traversal			http://rosettacode.org//wiki/Tree_traversal	http://rosettacode.org//wiki/Tree_traversal
Trigonometric functions			http://rosettacode.org//wiki/Trigonometric_functions	http://rosettacode.org//wiki/Trigonometric_functions
Truncatable primes			http://rosettacode.org//wiki/Truncatable_primes	http://rosettacode.org//wiki/Truncatable_primes
Truncate a file			http://rosettacode.org//wiki/Truncate_a_file	http://rosettacode.org//wiki/Truncate_a_file
Twelve statements			http://rosettacode.org//wiki/Twelve_statements	http://rosettacode.org//wiki/Twelve_statements
Ulam spiral (for primes)			http://rosettacode.org//wiki/Ulam_spiral_(for_primes)	http://rosettacode.org//wiki/Ulam_spiral_(for_primes)
Unbias a random generator			http://rosettacode.org//wiki/Unbias_a_random_generator	http://rosettacode.org//wiki/Unbias_a_random_generator
Undefined values			http://rosettacode.org//wiki/Undefined_values	http://rosettacode.org//wiki/Undefined_values
Unicode strings			http://rosettacode.org//wiki/Unicode_strings	http://rosettacode.org//wiki/Unicode_strings
Unicode variable names			http://rosettacode.org//wiki/Unicode_variable_names	http://rosettacode.org//wiki/Unicode_variable_names
Universal Turing machine			http://rosettacode.org//wiki/Universal_Turing_machine	http://rosettacode.org//wiki/Universal_Turing_machine
Unix/Is			http://rosettacode.org//wiki/Unix/ls	http://rosettacode.org//wiki/Unix/ls
Update a configuration file			http://rosettacode.org//wiki/Update_a_configuration_file	http://rosettacode.org//wiki/Update_a_configuration_file
URL decoding			http://rosettacode.org//wiki/URL_decoding	http://rosettacode.org//wiki/URL_decoding
URL encoding			http://rosettacode.org//wiki/URL_encoding	http://rosettacode.org//wiki/URL_encoding
URL parser			http://rosettacode.org//wiki/URL parser	http://rosettacode.org//wiki/URL_parser
Use another language to call a function			http://rosettacode.org//wiki/Use another language to call a function	http://rosettacode.org//wiki/Use_another_language_to_call_a_function
User input/Graphical			http://rosettacode.org//wiki/User_input/Graphical	http://rosettacode.org//wiki/User_input/Graphical
User input/Text			http://rosettacode.org//wiki/User_input/Text	http://rosettacode.org//wiki/User_input/Text
Vampire number			http://rosettacode.org//wiki/Vampire_number	http://rosettacode.org//wiki/Vampire number
Van der Corput sequence			http://rosettacode.org//wiki/Van der Corput sequence	http://rosettacode.org//wiki/Van der Corput sequence
Variable size/Get			http://rosettacode.org//wiki/Variable_size/Get	http://rosettacode.org//wiki/Variable_size/Get
Variable size/Set			http://rosettacode.org//wiki/Variable_size/Set	http://rosettacode.org//wiki/Variable_size/Set
Variable size/Set Variable-length quantity			http://rosettacode.org//wiki/Variable-length_quantity	http://rosettacode.org//wiki/Variable_length_quantity
Variables			http://rosettacode.org//wiki/Variables	http://rosettacode.org//wiki/Variables
Variables Variables			•	-
Vector products			http://rosettacode.org//wiki/Variadic_function	http://rosettacode.org//wiki/Variadic_function
· .	44		http://rosettacode.org//wiki/Vector_products	http://rosettacode.org//wiki/Vector_products
Verify distribution uniformity/Chi-squared	test		http://rosettacode.org//wiki/Verify_distribution_uniformity/Chi-squared_test	http://rosettacode.org//wiki/Verify_distribution_uniformity/Chi-squared_test
Verify distribution uniformity/Naive			http://rosettacode.org//wiki/Verify_distribution_uniformity/Naive	http://rosettacode.org//wiki/Verify_distribution_uniformity/Naive
Video display modes			http://rosettacode.org//wiki/Video_display_modes	http://rosettacode.org//wiki/Video_display_modes
Visualize a tree			http://rosettacode.org//wiki/Visualize_a_tree	http://rosettacode.org//wiki/Visualize_a_tree
Vogel's approximation method			http://rosettacode.org//wiki/Vogel%27s_approximation_method	http://rosettacode.org//wiki/Vogel%27s_approximation_method
Voronoi diagram			http://rosettacode.org//wiki/Voronoi_diagram	http://rosettacode.org//wiki/Voronoi_diagram
Walk a directory/Non-recursively			http://rosettacode.org//wiki/Walk_a_directory/Non-recursively	http://rosettacode.org//wiki/Walk_a_directory/Non-recursively
Walk a directory/Recursively			http://rosettacode.org//wiki/Walk_a_directory/Recursively	http://rosettacode.org//wiki/Walk_a_directory/Recursively
Web scraping			http://rosettacode.org//wiki/Web_scraping	http://rosettacode.org//wiki/Web_scraping
Window creation			http://rosettacode.org//wiki/Window_creation	http://rosettacode.org//wiki/Window_creation
Window creation/X11			http://rosettacode.org//wiki/Window_creation/X11	http://rosettacode.org//wiki/Window_creation/X11
Window management			http://rosettacode.org//wiki/Window_management	http://rosettacode.org//wiki/Window_management
Wireworld			http://rosettacode.org//wiki/Wireworld	http://rosettacode.org//wiki/Wireworld
Word wrap			http://rosettacode.org//wiki/Word_wrap	http://rosettacode.org//wiki/Word_wrap
World Cup group stage			http://rosettacode.org//wiki/World_Cup_group_stage	http://rosettacode.org//wiki/World_Cup_group_stage
Write entire file			http://rosettacode.org//wiki/Write_entire_file	http://rosettacode.org//wiki/Write_entire_file
Write float arrays to a text file			http://rosettacode.org//wiki/Write_float_arrays_to_a_text_file	http://rosettacode.org//wiki/Write_float_arrays_to_a_text_file
Write language name in 3D ASCII			http://rosettacode.org//wiki/Write language name in 3D ASCII	http://rosettacode.org//wiki/Write_language_name_in_3D_ASCII
Write to Windows event log			http://rosettacode.org//wiki/Write_to_Windows_event_log	http://rosettacode.org//wiki/Write_to_Windows_event_log
Xiaolin Wu's line algorithm			http://rosettacode.org//wiki/Xiaolin Wu%27s line algorithm	http://rosettacode.org//wiki/Xiaolin Wu%27s line algorithm
XML/DOM serialization			http://rosettacode.org//wiki/XML/DOM_serialization	http://rosettacode.org//wiki/XML/DOM_serialization
XML/Input			http://rosettacode.org//wiki/XML/Input	http://rosettacode.org//wiki/XML/Input
XML/Output			http://rosettacode.org//wiki/XML/Output	http://rosettacode.org//wiki/XML/Output
XML/XPath			http://rosettacode.org//wiki/XML/XPath	http://rosettacode.org//wiki/XML/XPath

Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
combinator	.,,		http://rosettacode.org//wiki/Y_combinator	http://rosettacode.org//wiki/Y_combinator
/ahoo! search interface			http://rosettacode.org//wiki/Yahoo!_search_interface	http://rosettacode.org//wiki/Yahoo!_search_interface
in and yang			http://rosettacode.org//wiki/Yin and yang	http://rosettacode.org//wiki/Yin and yang
'ebra puzzle			http://rosettacode.org//wiki/Zebra_puzzle	http://rosettacode.org//wiki/Zebra_puzzle
eckendorf arithmetic			http://rosettacode.org//wiki/Zeckendorf_arithmetic	http://rosettacode.org//wiki/Zeckendorf_arithmetic
eckendorf number representation			http://rosettacode.org//wiki/Zeckendorf_number_representation	http://rosettacode.org//wiki/Zeckendorf_number_representation
ero to the zero power			http://rosettacode.org//wiki/Zero_to_the_zero_power	http://rosettacode.org//wiki/Zero to the zero power
nang-Suen thinning algorithm			http://rosettacode.org//wiki/Zhang-Suen_thinning_algorithm	http://rosettacode.org//wiki/Zhang-Suen_thinning_algorithm
g-zag matrix			http://rosettacode.org//wiki/Zig-zag_matrix	http://rosettacode.org//wiki/Zig-zag_matrix
ultiples of 3 and 5				Intp://fosettacode.org//wiki/zig-zag_matrix
•			https://projecteuler.net/problem=1	
ven Fibonacci numbers			https://projecteuler.net/problem=2	
argest prime factor			https://projecteuler.net/problem=3	
argest palindrome product			https://projecteuler.net/problem=4	
mallest multiple			https://projecteuler.net/problem=5	
um square difference			https://projecteuler.net/problem=6	
0001st prime			https://projecteuler.net/problem=7	
argest product in a series			https://projecteuler.net/problem=8	
pecial Pythagorean triplet			https://projecteuler.net/problem=9	
ummation of primes			https://projecteuler.net/problem=10	
argest product in a grid			https://projecteuler.net/problem=11	
ighly divisible triangular number			https://projecteuler.net/problem=12	
arge sum			https://projecteuler.net/problem=13	
ongest Collatz sequence			https://projecteuler.net/problem=14	
attice paths			https://projecteuler.net/problem=15	
ower digit sum			https://projecteuler.net/problem=16	
umber letter counts			https://projecteuler.net/problem=17	
aximum path sum I			https://projecteuler.net/problem=18	
ounting Sundays			https://projecteuler.net/problem=19	
actorial digit sum			https://projecteuler.net/problem=20	
micable numbers			https://projecteuler.net/problem=21	
ames scores			https://projecteuler.net/problem=22	
on-abundant sums			https://projecteuler.net/problem=23	
exicographic permutations			https://projecteuler.net/problem=24	
000-digit Fibonacci number			https://projecteuler.net/problem=25	
eciprocal cycles			https://projecteuler.net/problem=26	
uadratic primes			https://projecteuler.net/problem=27	
umber spiral diagonals			https://projecteuler.net/problem=28	
istinct powers			https://projecteuler.net/problem=29	
igit fifth powers			https://projecteuler.net/problem=30	
oin sums			https://projecteuler.net/problem=31	
andigital products			https://projecteuler.net/problem=32	
igit cancelling fractions			https://projecteuler.net/problem=33	
igit cancelling fractions			https://projecteuler.net/problem=33	
igit factorials ircular primes				
•			https://projecteuler.net/problem=35	
ouble-base palindromes			https://projecteuler.net/problem=36	
uncatable primes			https://projecteuler.net/problem=37	
andigital multiples			https://projecteuler.net/problem=38	
teger right triangles			https://projecteuler.net/problem=39	
hampernowne's constant			https://projecteuler.net/problem=40	
andigital prime			https://projecteuler.net/problem=41	
coded triangle numbers			https://projecteuler.net/problem=42	
Sub-string divisibility			https://projecteuler.net/problem=43	
Pentagon numbers			https://projecteuler.net/problem=44	
riangular, pentagonal, and hexagonal			https://projecteuler.net/problem=45	

http://www.linuxtraining	academy.com			
Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
Distinct primes factors			https://projecteuler.net/problem=47	-
Self powers			https://projecteuler.net/problem=48	
Prime permutations			https://projecteuler.net/problem=49	
Consecutive prime sum			https://projecteuler.net/problem=50	
Prime digit replacements			https://projecteuler.net/problem=51	
Permuted multiples			https://projecteuler.net/problem=52	
Combinatoric selections			https://projecteuler.net/problem=53	
Poker hands			https://projecteuler.net/problem=54	
Lychrel numbers			https://projecteuler.net/problem=55	
Powerful digit sum			https://projecteuler.net/problem=56	
Square root convergents			https://projecteuler.net/problem=57	
Spiral primes			https://projecteuler.net/problem=58	
XOR decryption			https://projecteuler.net/problem=59	
Prime pair sets			https://projecteuler.net/problem=60	
Cyclical figurate numbers			https://projecteuler.net/problem=61	
Cubic permutations			https://projecteuler.net/problem=62	
Powerful digit counts			https://projecteuler.net/problem=63	
Odd period square roots			https://projecteuler.net/problem=64	
Convergents of e			https://projecteuler.net/problem=65	
Diophantine equation			https://projecteuler.net/problem=66	
Maximum path sum II			https://projecteuler.net/problem=67	
Magic 5-gon ring			https://projecteuler.net/problem=68	
Totient maximum				
			https://projecteuler.net/problem=69	
Totient permutation			https://projecteuler.net/problem=70	
Ordered fractions			https://projecteuler.net/problem=71	
Counting fractions			https://projecteuler.net/problem=72	
Counting fractions in a range			https://projecteuler.net/problem=73	
Digit factorial chains			https://projecteuler.net/problem=74	
Singular integer right triangles			https://projecteuler.net/problem=75	
Counting summations			https://projecteuler.net/problem=76	
Prime summations			https://projecteuler.net/problem=77	
Coin partitions			https://projecteuler.net/problem=78	
Passcode derivation			https://projecteuler.net/problem=79	
Square root digital expansion			https://projecteuler.net/problem=80	
Path sum: two ways			https://projecteuler.net/problem=81	
Path sum: three ways			https://projecteuler.net/problem=82	
Path sum: four ways			https://projecteuler.net/problem=83	
Monopoly odds			https://projecteuler.net/problem=84	
Counting rectangles			https://projecteuler.net/problem=85	
Cuboid route			https://projecteuler.net/problem=86	
Prime power triples			https://projecteuler.net/problem=87	
Product-sum numbers			https://projecteuler.net/problem=88	
Roman numerals			https://projecteuler.net/problem=89	
Cube digit pairs			https://projecteuler.net/problem=90	
Right triangles with integer coordinate	tes		https://projecteuler.net/problem=91	
Square digit chains			https://projecteuler.net/problem=92	
Arithmetic expressions			https://projecteuler.net/problem=93	
Almost equilateral triangles			https://projecteuler.net/problem=94	
Amicable chains			https://projecteuler.net/problem=95	
Su Doku			https://projecteuler.net/problem=96	
Large non-Mersenne prime			https://projecteuler.net/problem=97	
Anagramic squares			https://projecteuler.net/problem=98	
Largest exponential			https://projecteuler.net/problem=99	
Arranged probability			https://projecteuler.net/problem=100	
Optimum polynomial			https://projecteuler.net/problem=101	

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	ct Description Categ		Link to Project Solution
Triangle containment		https://projecteuler.net/problem=102	
Special subset sums: optimum		https://projecteuler.net/problem=103	
Pandigital Fibonacci ends		https://projecteuler.net/problem=104	
Special subset sums: testing		https://projecteuler.net/problem=105	
Special subset sums: meta-testing		https://projecteuler.net/problem=106	
Minimal network		https://projecteuler.net/problem=107	
Diophantine reciprocals I		https://projecteuler.net/problem=108	
Darts		https://projecteuler.net/problem=109	
Diophantine reciprocals II		https://projecteuler.net/problem=110	
Primes with runs		https://projecteuler.net/problem=111	
Bouncy numbers		https://projecteuler.net/problem=112	
Non-bouncy numbers		https://projecteuler.net/problem=113	
Counting block combinations I		https://projecteuler.net/problem=114	
Counting block combinations II		https://projecteuler.net/problem=115	
Red, green or blue tiles		https://projecteuler.net/problem=116	
Red, green, and blue tiles		https://projecteuler.net/problem=117	
Pandigital prime sets		https://projecteuler.net/problem=118	
Digit power sum		https://projecteuler.net/problem=119	
Square remainders		https://projecteuler.net/problem=120	
Disc game prize fund		https://projecteuler.net/problem=121	
Efficient exponentiation		https://projecteuler.net/problem=122	
Prime square remainders		https://projecteuler.net/problem=123	
Ordered radicals		https://projecteuler.net/problem=124	
Palindromic sums		https://projecteuler.net/problem=125	
cuboid layers			
-		https://projecteuler.net/problem=126	
abc-hits		https://projecteuler.net/problem=127	
Hexagonal tile differences		https://projecteuler.net/problem=128	
Repunit divisibility		https://projecteuler.net/problem=129	
Composites with prime repunit property		https://projecteuler.net/problem=130	
Prime cube partnership		https://projecteuler.net/problem=131	
arge repunit factors		https://projecteuler.net/problem=132	
Repunit nonfactors		https://projecteuler.net/problem=133	
Prime pair connection		https://projecteuler.net/problem=134	
Same differences		https://projecteuler.net/problem=135	
Singleton difference		https://projecteuler.net/problem=136	
ibonacci golden nuggets		https://projecteuler.net/problem=137	
Special isosceles triangles		https://projecteuler.net/problem=138	
Pythagorean tiles		https://projecteuler.net/problem=139	
Modified Fibonacci golden nuggets		https://projecteuler.net/problem=140	
nvestigating progressive numbers,		https://projecteuler.net/problem=141	
Perfect Square Collection		https://projecteuler.net/problem=142	
nvestigating the Torricelli point of a triangle		https://projecteuler.net/problem=143	
nvestigating multiple reflections of a laser beam		https://projecteuler.net/problem=144	
low many reversible numbers are there below of	ne-billion?	https://projecteuler.net/problem=145	
nvestigating a Prime Pattern		https://projecteuler.net/problem=146	
Rectangles in cross-hatched grids		https://projecteuler.net/problem=147	
Exploring Pascal's triangle		https://projecteuler.net/problem=148	
Searching for a maximum-sum subsequence		https://projecteuler.net/problem=149	
searching a triangular array for a sub-triangle ha	ving minimum-sum	https://projecteuler.net/problem=150	
Paper sheets of standard sizes: an expected-val		https://projecteuler.net/problem=151	
Vriting 1/2 as a sum of inverse squares		https://projecteuler.net/problem=152	
nvestigating Gaussian Integers		https://projecteuler.net/problem=153	
Exploring Pascal's pyramid		https://projecteuler.net/problem=154	
Counting Capacitor Circuits Counting Digits		https://projecteuler.net/problem=155 https://projecteuler.net/problem=156	

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	Category	Link to Project Description	Link to Project Solution
Solving the diophantine equation		https://projecteuler.net/problem=157	
Exploring strings for which only one character comes lexicographically after its	neighbour to the left	https://projecteuler.net/problem=158	
Digital root sums of factorisations	neighbour to the left	https://projecteuler.net/problem=159	
Factorial trailing digits		https://projecteuler.net/problem=160	
Triominoes		https://projecteuler.net/problem=161	
Hexadecimal numbers		https://projecteuler.net/problem=162	
Cross-hatched triangles		https://projecteuler.net/problem=163	
Numbers for which no three consecutive digits have a sum greater than a give	n value		
Intersections	ii value	https://projecteuler.net/problem=164	
Criss Cross		https://projecteuler.net/problem=165	
		https://projecteuler.net/problem=166	
Investigating Ulam sequences		https://projecteuler.net/problem=167	
Number Rotations	, ,,	https://projecteuler.net/problem=168	
Exploring the number of different ways a number can be expressed as a sum of	•	https://projecteuler.net/problem=169	
Find the largest 0 to 9 pandigital that can be formed by concatenating products	S	https://projecteuler.net/problem=170	
Finding numbers for which the sum of the squares of the digits is a square		https://projecteuler.net/problem=171	
Investigating numbers with few repeated digits		https://projecteuler.net/problem=172	
Using up to one million tiles how many different "hollow" square laminae can b		https://projecteuler.net/problem=173	
Counting the number of "hollow" square laminae that can form one, two, three,			
Fractions involving the number of different ways a number can be expressed a	s a sum of powers of 2		
Right-angled triangles that share a cathetus		https://projecteuler.net/problem=176	
Integer angled Quadrilaterals		https://projecteuler.net/problem=177	
Step Numbers		https://projecteuler.net/problem=178	
Consecutive positive divisors		https://projecteuler.net/problem=179	
Rational zeros of a function of three variables		https://projecteuler.net/problem=180	
Investigating in how many ways objects of two different colours can be grouped	d	https://projecteuler.net/problem=181	
RSA encryption		https://projecteuler.net/problem=182	
Maximum product of parts		https://projecteuler.net/problem=183	
Triangles containing the origin		https://projecteuler.net/problem=184	
Number Mind		https://projecteuler.net/problem=185	
Connectedness of a network		https://projecteuler.net/problem=186	
Semiprimes		https://projecteuler.net/problem=187	
The hyperexponentiation of a number		https://projecteuler.net/problem=188	
Tri-colouring a triangular grid		https://projecteuler.net/problem=189	
Maximising a weighted product		https://projecteuler.net/problem=190	
Prize Strings		https://projecteuler.net/problem=191	
Best Approximations		https://projecteuler.net/problem=192	
Squarefree Numbers		https://projecteuler.net/problem=193	
Coloured Configurations		https://projecteuler.net/problem=194	
Inscribed circles of triangles with one angle of 60 degrees		https://projecteuler.net/problem=195	
Prime triplets		https://projecteuler.net/problem=196	
Investigating the behaviour of a recursively defined sequence		https://projecteuler.net/problem=197	
Ambiguous Numbers		https://projecteuler.net/problem=198	
Iterative Circle Packing		https://projecteuler.net/problem=199	
Find the 200th prime-proof sqube containing the contiguous sub-string "200"		https://projecteuler.net/problem=199	
Subsets with a unique sum		https://projecteuler.net/problem=201	
Laserheam		https://projecteuler.net/problem=201	
Squarefree Binomial Coefficients			
·		https://projecteuler.net/problem=203	
Generalised Hamming Numbers		https://projecteuler.net/problem=204	
Dice Game		https://projecteuler.net/problem=205	
Concealed Square		https://projecteuler.net/problem=206	
Integer partition equations		https://projecteuler.net/problem=207	
Robot Walks		https://projecteuler.net/problem=208	
Circular Logic		https://projecteuler.net/problem=209	
Obtuse Angled Triangles		https://projecteuler.net/problem=210	
Divisor Square Sum		https://projecteuler.net/problem=211	

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Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
Combined Volume of Cuboids			https://projecteuler.net/problem=212	
Flea Circus			https://projecteuler.net/problem=213	
Totient Chains			https://projecteuler.net/problem=214	
Crack-free Walls			https://projecteuler.net/problem=215	
Investigating the primality of numbers	of the form 2		https://projecteuler.net/problem=216	
Balanced Numbers			https://projecteuler.net/problem=217	
Perfect right-angled triangles			https://projecteuler.net/problem=218	
Skew-cost coding			https://projecteuler.net/problem=219	
Heighway Dragon			https://projecteuler.net/problem=220	
Alexandrian Integers			https://projecteuler.net/problem=221	
Sphere Packing			https://projecteuler.net/problem=222	
Almost right-angled triangles I			https://projecteuler.net/problem=223	
Almost right-angled triangles II			https://projecteuler.net/problem=224	
Tribonacci non-divisors			https://projecteuler.net/problem=225	
A Scoop of Blancmange			https://projecteuler.net/problem=226	
The Chase			https://projecteuler.net/problem=227	
Minkowski Sums			https://projecteuler.net/problem=228	
Four Representations using Squares			https://projecteuler.net/problem=229	
Fibonacci Words			https://projecteuler.net/problem=230	
The prime factorisation of binomial co	officients		https://projecteuler.net/problem=230 https://projecteuler.net/problem=231	
· ·	emcients			
The Race			https://projecteuler.net/problem=232	
Lattice points on a circle			https://projecteuler.net/problem=233	
Semidivisible numbers			https://projecteuler.net/problem=234	
An Arithmetic Geometric sequence			https://projecteuler.net/problem=235	
Luxury Hampers			https://projecteuler.net/problem=236	
Tours on a 4 x n playing board			https://projecteuler.net/problem=237	
Infinite string tour			https://projecteuler.net/problem=238	
Twenty-two Foolish Primes			https://projecteuler.net/problem=239	
Top Dice			https://projecteuler.net/problem=240	
Perfection Quotients			https://projecteuler.net/problem=241	
Odd Triplets			https://projecteuler.net/problem=242	
Resilience			https://projecteuler.net/problem=243	
Sliders			https://projecteuler.net/problem=244	
Coresilience			https://projecteuler.net/problem=245	
Tangents to an ellipse			https://projecteuler.net/problem=246	
Squares under a hyperbola			https://projecteuler.net/problem=247	
Numbers for which Euler's totient fund	ction equals 13!		https://projecteuler.net/problem=248	
Prime Subset Sums			https://projecteuler.net/problem=249	
2500	250		https://projecteuler.net/problem=250	
Cardano Triplets			https://projecteuler.net/problem=251	
Convex Holes			https://projecteuler.net/problem=252	
Tidying up			https://projecteuler.net/problem=253	
Sums of Digit Factorials			https://projecteuler.net/problem=254	
Rounded Square Roots			https://projecteuler.net/problem=255	
Tatami-Free Rooms			https://projecteuler.net/problem=256	
Angular Bisectors			https://projecteuler.net/problem=257	
A lagged Fibonacci sequence			https://projecteuler.net/problem=258	
Reachable Numbers			https://projecteuler.net/problem=259	
Stone Game			https://projecteuler.net/problem=260	
Pivotal Square Sums			https://projecteuler.net/problem=261	
Mountain Range			https://projecteuler.net/problem=262	
An engineers' dream come true			https://projecteuler.net/problem=263	
Triangle Centres			https://projecteuler.net/problem=264	
Binary Circles				
Dillary Circles			https://projecteuler.net/problem=265	

http://www.linuxtrainingac	cademy.com			
Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
Billionaire			https://projecteuler.net/problem=267	
Counting numbers with at least four dis	stinct prime factors less than 100		https://projecteuler.net/problem=268	
Polynomials with at least one integer ro			https://projecteuler.net/problem=269	
Cutting Squares			https://projecteuler.net/problem=270	
Modular Cubes, part 1			https://projecteuler.net/problem=271	
Modular Cubes, part 2			https://projecteuler.net/problem=272	
Sum of Squares			https://projecteuler.net/problem=273	
Divisibility Multipliers			https://projecteuler.net/problem=274	
Balanced Sculptures			https://projecteuler.net/problem=275	
Primitive Triangles			https://projecteuler.net/problem=276	
A Modified Collatz sequence			https://projecteuler.net/problem=277	
Linear Combinations of Semiprimes			https://projecteuler.net/problem=278	
Triangles with integral sides and an inte	egral angle		https://projecteuler.net/problem=279	
Ant and seeds	- g. a g. a		https://projecteuler.net/problem=280	
Pizza Toppings			https://projecteuler.net/problem=281	
The Ackermann function			https://projecteuler.net/problem=282	
Integer sided triangles for which the ar	ea/perimeter ratio is integral		https://projecteuler.net/problem=283	
Steady Squares			https://projecteuler.net/problem=284	
Pythagorean odds			https://projecteuler.net/problem=285	
Scoring probabilities			https://projecteuler.net/problem=286	
Quadtree encoding (a simple compress	sion algorithm)		https://projecteuler.net/problem=287	
An enormous factorial	sion algoritim)		https://projecteuler.net/problem=288	
Eulerian Cycles			https://projecteuler.net/problem=289	
Digital Signature			https://projecteuler.net/problem=290	
Panaitopol Primes			https://projecteuler.net/problem=291	
Pythagorean Polygons			https://projecteuler.net/problem=292	
Pseudo-Fortunate Numbers			https://projecteuler.net/problem=293	
Sum of digits - experience #23			https://projecteuler.net/problem=294	
Lenticular holes			https://projecteuler.net/problem=295	
Angular Bisector and Tangent			https://projecteuler.net/problem=296	
Zeckendorf Representation			https://projecteuler.net/problem=297	
Selective Amnesia			https://projecteuler.net/problem=298	
Three similar triangles			https://projecteuler.net/problem=299	
Protein folding			https://projecteuler.net/problem=300	
Nim			https://projecteuler.net/problem=301	
Strong Achilles Numbers			https://projecteuler.net/problem=302	
Multiples with small digits			https://projecteuler.net/problem=303	
Primonacci			https://projecteuler.net/problem=304	
Reflexive Position			https://projecteuler.net/problem=305	
Paper-strip Game			https://projecteuler.net/problem=306	
Chip Defects			https://projecteuler.net/problem=307	
An amazing Prime-generating Automat	on		https://projecteuler.net/problem=308	
Integer Ladders	ion .		https://projecteuler.net/problem=309	
Nim Square				
Biclinic Integral Quadrilaterals			https://projecteuler.net/problem=310	
-			https://projecteuler.net/problem=311	
Cyclic paths on Sierpiński graphs Sliding game			https://projecteuler.net/problem=312	
			https://projecteuler.net/problem=313	
The Mouse on the Moon			https://projecteuler.net/problem=314	
Digital root clocks			https://projecteuler.net/problem=315	
Numbers in decimal expansions			https://projecteuler.net/problem=316	
Firecracker			https://projecteuler.net/problem=317	
2011 nines			https://projecteuler.net/problem=318	
Bounded Sequences			https://projecteuler.net/problem=319	
Factorials divisible by a huge integer			https://projecteuler.net/problem=320	
Swapping Counters			https://projecteuler.net/problem=321	

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Project Name Project Descript	ion Category	Link to Project Description	Link to Project Solution
Binomial coefficients divisible by 10		https://projecteuler.net/problem=322	
Bitwise-OR operations on random integers		https://projecteuler.net/problem=323	
Building a tower		https://projecteuler.net/problem=324	
Stone Game II		https://projecteuler.net/problem=325	
Modulo Summations		https://projecteuler.net/problem=326	
Rooms of Doom		https://projecteuler.net/problem=327	
Lowest-cost Search		https://projecteuler.net/problem=328	
Prime Frog		https://projecteuler.net/problem=329	
Euler's Number		https://projecteuler.net/problem=330	
Cross flips		https://projecteuler.net/problem=331	
Spherical triangles		https://projecteuler.net/problem=332	
Special partitions		https://projecteuler.net/problem=333	
Spilling the beans		https://projecteuler.net/problem=334	
Gathering the beans		https://projecteuler.net/problem=335	
Maximix Arrangements		https://projecteuler.net/problem=336	
Totient Stairstep Sequences		https://projecteuler.net/problem=337	
Cutting Rectangular Grid Paper		https://projecteuler.net/problem=338	
Peredur fab Efrawg		https://projecteuler.net/problem=339	
Crazy Function		https://projecteuler.net/problem=340	
Golomb's self-describing sequence		https://projecteuler.net/problem=341	
The totient of a square is a cube		https://projecteuler.net/problem=342	
Fractional Sequences		https://projecteuler.net/problem=343	
Silver dollar game		https://projecteuler.net/problem=344	
Matrix Sum		https://projecteuler.net/problem=345	
Strong Repunits		https://projecteuler.net/problem=346	
Largest integer divisible by two primes		https://projecteuler.net/problem=347	
Sum of a square and a cube		https://projecteuler.net/problem=348	
Langton's ant		https://projecteuler.net/problem=349	
Constraining the least greatest and the greatest least		https://projecteuler.net/problem=350	
Hexagonal orchards		https://projecteuler.net/problem=351	
Blood tests		https://projecteuler.net/problem=352	
Risky moon		https://projecteuler.net/problem=353	
Distances in a bee's honeycomb		https://projecteuler.net/problem=354	
Maximal coprime subset		https://projecteuler.net/problem=355	
Largest roots of cubic polynomials		https://projecteuler.net/problem=356	
Prime generating integers		https://projecteuler.net/problem=357	
Cyclic numbers		https://projecteuler.net/problem=358	
Hilbert's New Hotel		https://projecteuler.net/problem=359	
Scary Sphere		https://projecteuler.net/problem=360	
Subsequence of Thue-Morse sequence		https://projecteuler.net/problem=361	
Squarefree factors		https://projecteuler.net/problem=362	
Bézier Curves		https://projecteuler.net/problem=363	
Comfortable distance		https://projecteuler.net/problem=364	
A huge binomial coefficient		https://projecteuler.net/problem=365	
Stone Game III		https://projecteuler.net/problem=366	
Bozo sort		https://projecteuler.net/problem=367	
A Kempner-like series		https://projecteuler.net/problem=368	
Badugi		https://projecteuler.net/problem=369	
Geometric triangles		https://projecteuler.net/problem=370	
Licence plates		https://projecteuler.net/problem=371	
Pencils of rays		https://projecteuler.net/problem=372	
Circumscribed Circles		https://projecteuler.net/problem=373	
Maximum Integer Partition Product		https://projecteuler.net/problem=374	
Minimum of subsequences		https://projecteuler.net/problem=375	
Nontransitive sets of dice		https://projecteuler.net/problem=376	
INOTITION AND SELS OF CICE		https://projectedier.nevproblem=370	

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Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
Sum of digits, experience 13			https://projecteuler.net/problem=377	·
Triangle Triples			https://projecteuler.net/problem=378	
Least common multiple count			https://projecteuler.net/problem=379	
Amazing Mazes!			https://projecteuler.net/problem=380	
(prime-k) factorial			https://projecteuler.net/problem=381	
Generating polygons			https://projecteuler.net/problem=382	
Divisibility comparison between factor	orials		https://projecteuler.net/problem=383	
Rudin-Shapiro sequence			https://projecteuler.net/problem=384	
Ellipses inside triangles			https://projecteuler.net/problem=385	
Maximum length of an antichain			https://projecteuler.net/problem=386	
Harshad Numbers			https://projecteuler.net/problem=387	
Distinct Lines			https://projecteuler.net/problem=388	
Platonic Dice			https://projecteuler.net/problem=389	
Triangles with non rational sides and	I integral area		https://projecteuler.net/problem=390	
Hopping Game	i integral area		https://projecteuler.net/problem=391	
Enmeshed unit circle			https://projecteuler.net/problem=392	
Migrating ants			https://projecteuler.net/problem=393	
Eating pie			https://projecteuler.net/problem=394	
Pythagorean tree			https://projecteuler.net/problem=395	
Weak Goodstein sequence			https://projecteuler.net/problem=396	
Triangle on parabola			https://projecteuler.net/problem=397	
Cutting rope			https://projecteuler.net/problem=398	
Squarefree Fibonacci Numbers				
· .			https://projecteuler.net/problem=399	
Fibonacci tree game			https://projecteuler.net/problem=400	
Sum of squares of divisors			https://projecteuler.net/problem=401	
Integer-valued polynomials			https://projecteuler.net/problem=402	
Lattice points enclosed by parabola a	and line		https://projecteuler.net/problem=403	
Crisscross Ellipses			https://projecteuler.net/problem=404	
A rectangular tiling			https://projecteuler.net/problem=405	
Guessing Game			https://projecteuler.net/problem=406	
Idempotents			https://projecteuler.net/problem=407	
Admissible paths through a grid			https://projecteuler.net/problem=408	
Nim Extreme			https://projecteuler.net/problem=409	
Circle and tangent line			https://projecteuler.net/problem=410	
Uphill paths			https://projecteuler.net/problem=411	
Gnomon numbering			https://projecteuler.net/problem=412	
One-child Numbers			https://projecteuler.net/problem=413	
Kaprekar constant			https://projecteuler.net/problem=414	
Titanic sets			https://projecteuler.net/problem=415	
A frog's trip			https://projecteuler.net/problem=416	
Reciprocal cycles II			https://projecteuler.net/problem=417	
Factorisation triples			https://projecteuler.net/problem=418	
Look and say sequence			https://projecteuler.net/problem=419	
2x2 positive integer matrix			https://projecteuler.net/problem=420	
Prime factors of			https://projecteuler.net/problem=421	
Sequence of points on a hyperbola			https://projecteuler.net/problem=422	
Consecutive die throws			https://projecteuler.net/problem=423	
Kakuro			https://projecteuler.net/problem=424	
Prime connection			https://projecteuler.net/problem=425	
Box-ball system			https://projecteuler.net/problem=426	
n-sequences			https://projecteuler.net/problem=427	
Necklace of circles			https://projecteuler.net/problem=428	
Sum of squares of unitary divisors			https://projecteuler.net/problem=429	
Range flips			https://projecteuler.net/problem=430	
Square Space Silo			https://projecteuler.net/problem=431	

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roject Name	Project Description	Category	Link to Project Description	Link to Project Solution
otient sum			https://projecteuler.net/problem=432	
eps in Euclid's algorithm			https://projecteuler.net/problem=433	
igid graphs			https://projecteuler.net/problem=434	
olynomials of Fibonacci numbers			https://projecteuler.net/problem=435	
nfair wager			https://projecteuler.net/problem=436	
ibonacci primitive roots			https://projecteuler.net/problem=437	
teger part of polynomial equation's so	lutions		https://projecteuler.net/problem=438	
um of sum of divisors			https://projecteuler.net/problem=439	
CD and Tiling			https://projecteuler.net/problem=440	
he inverse summation of coprime cou	ples		https://projecteuler.net/problem=441	
leven-free integers			https://projecteuler.net/problem=442	
CD sequence			https://projecteuler.net/problem=443	
he Roundtable Lottery			https://projecteuler.net/problem=444	
etractions A			https://projecteuler.net/problem=445	
etractions B			https://projecteuler.net/problem=446	
etractions C			https://projecteuler.net/problem=447	
verage least common multiple			https://projecteuler.net/problem=448	
hocolate covered candy			https://projecteuler.net/problem=449	
ypocycloid and Lattice points			https://projecteuler.net/problem=450	
lodular inverses			https://projecteuler.net/problem=451	
ong Products			https://projecteuler.net/problem=452	
attice Quadrilaterals			https://projecteuler.net/problem=453	
iophantine reciprocals III			https://projecteuler.net/problem=454	
owers With Trailing Digits			https://projecteuler.net/problem=455	
riangles containing the origin II			https://projecteuler.net/problem=456	
polynomial modulo the square of a pr	ime		https://projecteuler.net/problem=457	
ermutations of Project			https://projecteuler.net/problem=458	
lipping game			https://projecteuler.net/problem=459	
n ant on the move			https://projecteuler.net/problem=460	
Imost Pi			https://projecteuler.net/problem=461	
ermutation of 3-smooth numbers			https://projecteuler.net/problem=462	
weird recurrence relation			https://projecteuler.net/problem=463	
öbius function and intervals			https://projecteuler.net/problem=464	
olar polygons			https://projecteuler.net/problem=465	
istinct terms in a multiplication table			https://projecteuler.net/problem=466	
uperinteger			https://projecteuler.net/problem=467	
mooth divisors of binomial coefficients	8		https://projecteuler.net/problem=468	
mpty chairs			https://projecteuler.net/problem=469	
uper Ramvok			https://projecteuler.net/problem=470	
riangle inscribed in ellipse			https://projecteuler.net/problem=471	
omfortable Distance II			https://projecteuler.net/problem=472	
higital number base			https://projecteuler.net/problem=473	
ast digits of divisors			https://projecteuler.net/problem=474	
usic festival			https://projecteuler.net/problem=475	
rcle Packing II			https://projecteuler.net/problem=476	
ımber Sequence Game			https://projecteuler.net/problem=477	
xtures			https://projecteuler.net/problem=478	
oots on the Rise			https://projecteuler.net/problem=479	
ne Last Question			https://projecteuler.net/problem=480	
hef Showdown			https://projecteuler.net/problem=481	
he incenter of a triangle			https://projecteuler.net/problem=482	
epeated permutation			https://projecteuler.net/problem=483	
rithmetic Derivative			https://projecteuler.net/problem=484	
aximum number of divisors			https://projecteuler.net/problem=485	
alindrome-containing strings			https://projecteuler.net/problem=486	

oject Name	Project Description	Category	Link to Project Description	Link to Project Solution
ims of power sums	jour = coonpuon		https://projecteuler.net/problem=487	
ins of power sums			https://projecteuler.net/problem=488	
ommon factors between two sequence	8		https://projecteuler.net/problem=489	
mping frog			https://projecteuler.net/problem=490	
mping nog ouble pandigital number divisible by 1			https://projecteuler.net/problem=491	
ploding sequence			https://projecteuler.net/problem=491	
ploding sequence				
			https://projecteuler.net/problem=493	
ollatz prefix families			https://projecteuler.net/problem=494	
riting n as the product of k distinct pos	tive integers		https://projecteuler.net/problem=495	
center and circumcenter of triangle			https://projecteuler.net/problem=496	
unken Tower of Hanoi			https://projecteuler.net/problem=497	
emainder of polynomial division			https://projecteuler.net/problem=498	
Petersburg Lottery			https://projecteuler.net/problem=499	
oblem 500!!!			https://projecteuler.net/problem=500	
ght Divisors			https://projecteuler.net/problem=501	
ounting Castles			https://projecteuler.net/problem=502	
empromise or persist			https://projecteuler.net/problem=503	
uare on the Inside			https://projecteuler.net/problem=504	
directional Recurrence			https://projecteuler.net/problem=505	
ock sequence			https://projecteuler.net/problem=506	
ortest Lattice Vector			https://projecteuler.net/problem=507	
egers in base i-1			https://projecteuler.net/problem=508	
visor Nim			https://projecteuler.net/problem=509	
ngent Circles			https://projecteuler.net/problem=510	
uences with nice divisibility propertie	S		https://projecteuler.net/problem=511	
ms of totients of powers			https://projecteuler.net/problem=512	
egral median			https://projecteuler.net/problem=513	
oboard Shapes			https://projecteuler.net/problem=514	
sonant Numbers			https://projecteuler.net/problem=515	
mooth totients			https://projecteuler.net/problem=516	
eal recursion			https://projecteuler.net/problem=517	
ne triples and geometric sequences			https://projecteuler.net/problem=518	
colored Coin Fountains			https://projecteuler.net/problem=518 https://projecteuler.net/problem=519	
mbers				
nallest prime factor			https://projecteuler.net/problem=520	
			https://projecteuler.net/problem=521	
bert's Blackout			https://projecteuler.net/problem=522	
			https://projecteuler.net/problem=523	
st Sort II			https://projecteuler.net/problem=524	
ling Ellipse			https://projecteuler.net/problem=525	
rgest prime factors of consecutive nu	npers		https://projecteuler.net/problem=526	
indomized Binary Search			https://projecteuler.net/problem=527	
instrained Sums			https://projecteuler.net/problem=528	
-substrings			https://projecteuler.net/problem=529	
D of Divisors			https://projecteuler.net/problem=530	
nese leftovers			https://projecteuler.net/problem=531	
nobots on Geodesics			https://projecteuler.net/problem=532	
nimum values of the Carmichael func	on		https://projecteuler.net/problem=533	
eak Queens			https://projecteuler.net/problem=534	
actal Sequence			https://projecteuler.net/problem=535	
odulo power identity			https://projecteuler.net/problem=536	
ounting tuples			https://projecteuler.net/problem=537	
aximum quadrilaterals			https://projecteuler.net/problem=538	
dd elimination			https://projecteuler.net/problem=539	
			https://projecteuler.net/problem=540	
ounting primitive Pythagorean triples				

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Project Name Project Description	Category	Link to Project Description	Link to Project Solution
Geometric Progression with Maximum Sum	,	https://projecteuler.net/problem=542	· · · · · · ·
Prime-Sum Numbers		https://projecteuler.net/problem=543	
Chromatic Conundrum		https://projecteuler.net/problem=544	
Faulhaber's Formulas		https://projecteuler.net/problem=545	
Sum "A+B"		http://www.codeabbey.com/index/task_view/sum-of-two	
Sum in Loop		http://www.codeabbey.com/index/task_view/sum-in-loop	
Sums in Loop		http://www.codeabbey.com/index/task_view/sums-in-loop	
Minimum of Two		http://www.codeabbey.com/index/task_view/min-of-two	
Minimum of Three		http://www.codeabbey.com/index/task_view/min-of-three	
Maximum of array		http://www.codeabbey.com/index/task_view/maximum-of-array	
Rounding		http://www.codeabbey.com/index/task_view/rounding	
Fahrenheit to Celsius		http://www.codeabbey.com/index/task_view/fahrenheit-celsius	
Vowel Count		http://www.codeabbey.com/index/task_view/vowel-count	
Median of Three		http://www.codeabbey.com/index/task_view/median-of-three	
Body Mass Index		http://www.codeabbey.com/index/task_view/body-mass-index	
Sum of digits		http://www.codeabbey.com/index/task_view/sum-of-digits	
Dice Rolling		http://www.codeabbey.com/index/task_view/dice-rolling	
Weighted sum of digits		http://www.codeabbey.com/index/task_view/weighted-sum-of-digits	
Average of an array		http://www.codeabbey.com/index/task_view/average-of-array	
Arithmetic Progression		http://www.codeabbey.com/index/task_view/arithmetic-progression	
Array Checksum		http://www.codeabbey.com/index/task_view/array-checksum	
Triangles		http://www.codeabbey.com/index/task_view/triangles	
Array Counters		http://www.codeabbey.com/index/task_view/array-counters	
Reverse String		http://www.codeabbey.com/index/task_view/reverse-string	
Collatz Sequence		http://www.codeabbey.com/index/task_view/collatz-sequence	
Modular Calculator		http://www.codeabbey.com/index/task_view/modular-calculator	
Bubble Sort		http://www.codeabbey.com/index/task_view/bubble-sort	
Modulo and time difference		http://www.codeabbey.com/index/task_view/modulo-and-time-difference	
Linear Function		http://www.codeabbey.com/index/task_view/linear-function	
Greatest Common Divisor		http://www.codeabbey.com/index/task_view/greatest-common-divisor	
Sort with Indexes		http://www.codeabbey.com/index/task_view/sort-with-indexes	
Fibonacci Sequence		http://www.codeabbey.com/index/task_view/fibonacci-sequence	
Neumann's Random Generator		http://www.codeabbey.com/index/task_view/neumanns-random-generator	
Palindromes		http://www.codeabbey.com/index/task_view/palindromes	
Smoothing the Weather		http://www.codeabbey.com/index/task_view/smoothing-the-weather	
Bubble in Array		http://www.codeabbey.com/index/task_view/bubble-in-array	
Square Root		http://www.codeabbey.com/index/task_view/square-root	
Rotate String		http://www.codeabbey.com/index/task_view/rotate-string	
Bicycle Race		http://www.codeabbey.com/index/task_view/bicycle-race	
Pythagorean Theorem		http://www.codeabbey.com/index/task_view/pythagorean-theorem	
Josephus Problem		http://www.codeabbey.com/index/task_view/pythagorean-theorem	
Bit Count		http://www.codeabbey.com/index/task_view/josephus-problem	
Double Dice Roll		http://www.codeabbey.com/index/task_view/double-dice-roll	
Savings Calculator		http://www.codeabbey.com/index/task_view/double-dice-foil http://www.codeabbey.com/index/task_view/savings-calculator	
Caesar Shift Cipher		http://www.codeabbey.com/index/task_view/caesar-shift-cipher	
Linear Congruential Generator		http://www.codeabbey.com/index/task_view/clear-congruential-generator	
Matching Words		http://www.codeabbey.com/index/task_view/inear-congruential-generator	
Triangle Area		http://www.codeabbey.com/index/task_view/triangle-area	
Prime Numbers Generation			
Matching Brackets		http://www.codeabbey.com/index/task_view/prime-numbers-generation	
ū		http://www.codeabbey.com/index/task_view/matching-brackets	
Rock Paper Scissors		http://www.codeabbey.com/index/task_view/rock-paper-scissors	
Card Names		http://www.codeabbey.com/index/task_view/card-names	
Fool's Day 2014		http://www.codeabbey.com/index/task_view/fools-day-2014	
Bulls and Cows		http://www.codeabbey.com/index/task_view/bulls-and-cows	
Combinations Counting		http://www.codeabbey.com/index/task_view/combinations-counting	

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Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
Binary Search			http://www.codeabbey.com/index/task_view/binary-search	•
Two Printers			http://www.codeabbey.com/index/task_view/two-printers	
Parity Control			http://www.codeabbey.com/index/task_view/parity-control	
Quadratic Equation			http://www.codeabbey.com/index/task_view/quadratic-equation	
Blackjack Counting			http://www.codeabbey.com/index/task_view/blackjack-counting	
Selection Sort			http://www.codeabbey.com/index/task_view/selection-sort	
King and Queen			http://www.codeabbey.com/index/task_view/king-and-queen	
Cards Shuffling			http://www.codeabbey.com/index/task_view/cards-shuffling	
Funny Words Generator			http://www.codeabbey.com/index/task_view/funny-words-generator	
Integer Factorization			http://www.codeabbey.com/index/task_view/integer-factorization	
Fibonacci Divisibility			http://www.codeabbey.com/index/task_view/fibonacci-divisibility	
Tic-Tac-Toe			http://www.codeabbey.com/index/task_view/tic-tac-toe	
Mortgage Calculator			http://www.codeabbey.com/index/task_view/mortgage-calculator	
Insertion Sort			http://www.codeabbey.com/index/task_view/insertion-sort	
Flying Text Screensaver			http://www.codeabbey.com/index/task_view/flying-text-screensaver_	
Anagrams			http://www.codeabbey.com/index/task_view/anagrams	
Share Price Volatility			http://www.codeabbey.com/index/task_view/share-price-volatility	
Tricky Printing			http://www.codeabbey.com/index/task_view/tricky-printing	
Prime Ranges			http://www.codeabbey.com/index/task_view/tricky-printing	
Yacht or Dice Poker				
			http://www.codeabbey.com/index/task_view/yacht-or-dice-poker	
Clock Hands			http://www.codeabbey.com/index/task_view/clock-hands	
Hexagonal Grid			http://www.codeabbey.com/index/task_view/hexagonal-grid	
Code Guesser			http://www.codeabbey.com/index/task_view/code-guesser	
Luhn Algorithm			http://www.codeabbey.com/index/task_view/luhn-algorithm	
Summing Up			http://www.codeabbey.com/index/task_view/summing-up	
Duel Chances			http://www.codeabbey.com/index/task_view/duel-chances	
Pythagorean Triples			http://www.codeabbey.com/index/task_view/pythagorean-triples	
Tree Height Measurement			http://www.codeabbey.com/index/task_view/tree-height-measurement	
Dungeons and Dragons Dice			http://www.codeabbey.com/index/task_view/dungeons-and-dragons-dice	
QuickSort			http://www.codeabbey.com/index/task_view/quicksort	
Girls and Pigs			http://www.codeabbey.com/index/task_view/girls-and-pigs	
Variable Length Code			http://www.codeabbey.com/index/task_view/variable-length-code	
Convex Polygon Area			http://www.codeabbey.com/index/task_view/convex-polygon-area	
Rotation in 2D Space			http://www.codeabbey.com/index/task_view/rotation-in-2d-space	
Most Frequent Word			http://www.codeabbey.com/index/task_view/most-frequent-word	
Caesar Cipher Cracker			http://www.codeabbey.com/index/task_view/caesar-cipher-cracker	
Azimuth at Treasure Island			http://www.codeabbey.com/index/task_view/azimuth-at-treasure-island	
Cloud Altitude Measurement			http://www.codeabbey.com/index/task_view/cloud-altitude-measurement	
Tree Builder			http://www.codeabbey.com/index/task_view/tree-builder	
Modular Exponentiation			http://www.codeabbey.com/index/task_view/modular-exponentiation	
Life is Simple			http://www.codeabbey.com/index/task_view/life-is-simple	
Brainfuck Interpreter			http://www.codeabbey.com/index/task_view/brainfuck-interpreter	
Brain Fibo			http://www.codeabbey.com/index/task_view/brain-fibo	
Point to Segment Distance			http://www.codeabbey.com/index/task_view/point-to-segment-distance	
Say 100			http://www.codeabbey.com/index/task_view/say-100	
Pitch and Notes			http://www.codeabbey.com/index/task_view/pitch-and-notes	
Levenshtein Distance			http://www.codeabbey.com/index/task_view/levenshtein-distance	
Reverse Polish Notation			http://www.codeabbey.com/index/task_view/reverse-polish-notation	
Paths in the Grid			http://www.codeabbey.com/index/task_view/paths-in-the-grid	
Static Web Page			http://www.codeabbey.com/index/task_view/static-web-page	
Basics of HTML			http://www.codeabbey.com/index/task_view/basics-of-html	
Game of 2048			http://www.codeabbey.com/index/task_view/game-of-2048	
Simple Linear Regression			http://www.codeabbey.com/index/task_view/simple-linear-regression	
Binary Heap			http://www.codeabbey.com/index/task_view/binary-heap	
Sequence of Squares			http://www.codeabbey.com/index/task_view/sequence-of-squares	

http://www.linuxtrainingae	cademy.com			
Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
Maze Pathfinder			http://www.codeabbey.com/index/task_view/maze-pathfinder	•
Instrument Tuner			http://www.codeabbey.com/index/task_view/instrument-tuner	
Gradient Calculation			http://www.codeabbey.com/index/task_view/gradient-calculation	
Sweet Harvest			http://www.codeabbey.com/index/task_view/sweet-harvest	
Fibonacci Divisibility Advanced			http://www.codeabbey.com/index/task_view/fibonacci-divisibility-advanced	
Graph Generator			http://www.codeabbey.com/index/task_view/graph-generator	
Lexicographic Permutations			http://www.codeabbey.com/index/task_view/lexicographic-permutations	
Divide by Two			http://www.codeabbey.com/index/task_view/divide-by-two	
Four Pics One Word			http://www.codeabbey.com/index/task_view/four-pics-one-word	
Cycles Detection			http://www.codeabbey.com/index/task_view/cycles-detection	
Star Medals			http://www.codeabbey.com/index/task_view/star-medals	
Introducing Regexps			http://www.codeabbey.com/index/task_view/introducing-regexps	
Mul Two			http://www.codeabbey.com/index/task_view/mul-two	
Bezier Curves			http://www.codeabbey.com/index/task_view/bezier-curves	
Copy Line			http://www.codeabbey.com/index/task_view/copy-line	
Variable Length Code Unpack			http://www.codeabbey.com/index/task_view/variable-length-code-unpack	
Dynamic Web Page			http://www.codeabbey.com/index/task_view/dynamic-web-page	
Uphill Shooting			http://www.codeabbey.com/index/task_view/uphill-shooting	
Extended Euclidean Algorithm			http://www.codeabbey.com/index/task_view/extended-euclidean-algorithm	
Transitive Closure on Candy States			http://www.codeabbey.com/index/task_view/extended-euclidean-aighthim	
Suffix Array				
Snake Arcade			http://www.codeabbey.com/index/task_view/suffix-array	
Breadth First Search			http://www.codeabbey.com/index/task_view/snake-arcade	
			http://www.codeabbey.com/index/task_view/breadth-first-search	
Binary Search in Array			http://www.codeabbey.com/index/task_view/binary-search-in-array	
Loops in Assembly			http://www.codeabbey.com/index/task_view/loops-in-assembly	
Bogosort			http://www.codeabbey.com/index/task_view/bogosort	
Billiard Ball			http://www.codeabbey.com/index/task_ view/billiard-ball	
Easter Eggs			http://www.codeabbey.com/index/task_view/easter-eggs	
Dijkstra in the Network			http://www.codeabbey.com/index/task_view/dijkstra-in-the-network	
Starving Priority Queue			http://www.codeabbey.com/index/task_view/starving-priority-queue	
Spaceship Weight Fraud			http://www.codeabbey.com/index/task_view/spaceship-weight-fraud	
Pawn Move Validator			http://www.codeabbey.com/index/task_view/pawn-move-validator	
Depth First Search			http://www.codeabbey.com/index/task_view/depth-first-search	
Information Entropy			http://www.codeabbey.com/index/task_view/information-entropy	
Topological Sorting			http://www.codeabbey.com/index/task_view/topological-sorting	
Enumerating Combinations			http://www.codeabbey.com/index/task_view/enumerating-combinations	
Lucky Tickets			http://www.codeabbey.com/index/task_view/lucky-tickets	
Color Cubes			http://www.codeabbey.com/index/task_view/color-cubes	
Safe Landing			http://www.codeabbey.com/index/task_view/safe-landing	
Combinations with Repetitions			http://www.codeabbey.com/index/task_view/combinations-with-repetitions	
Query String Parameters			http://www.codeabbey.com/index/task_view/query-string-parameters	
Proper Bracket Sequences			http://www.codeabbey.com/index/task_view/proper-bracket-sequences	
Modular Inverse			http://www.codeabbey.com/index/task_view/modular-inverse	
Base-32 Encoding			http://www.codeabbey.com/index/task_view/base-32-encoding	
Knapsack of Integers			http://www.codeabbey.com/index/task_view/knapsack-of-integers	
Huffman Coding			http://www.codeabbey.com/index/task_view/huffman-coding	
Calculation of Pi			http://www.codeabbey.com/index/task_view/calculation-of-pi	
Word Ladders			http://www.codeabbey.com/index/task_view/word-ladders	
Shannon-Fano Coding			http://www.codeabbey.com/index/task_view/shannon-fano-coding	
Nim Game			http://www.codeabbey.com/index/task_view/nim-game	
Lucky Tickets Advanced			http://www.codeabbey.com/index/task_view/lucky-tickets-advanced	
Caesar meets BF			http://www.codeabbey.com/index/task_view/caesar-meets-bf	
Chords of Music			http://www.codeabbey.com/index/task_view/chords-of-music	
Random Search Optimization			http://www.codeabbey.com/index/task_view/random-search-optimization	
Social Web Scraper			http://www.codeabbey.com/index/task_view/social-web-scraper	

Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
Page Rank			http://www.codeabbey.com/index/task_view/page-rank	
eam Balance and Masses			http://www.codeabbey.com/index/task_view/beam-balance-and-masses	
ecklace Count			http://www.codeabbey.com/index/task_view/necklace-count	
onvex Hull and Farmers			http://www.codeabbey.com/index/task_view/convex-hull-and-farmers	
n Hex Str			http://www.codeabbey.com/index/task_view/prn-hex-str	
apsack Backtracking			http://www.codeabbey.com/index/task_view/knapsack-backtracking	
ossing the Road			http://www.codeabbey.com/index/task_view/crossing-the-road	
blic Key Cryptography Intro			http://www.codeabbey.com/index/task_view/public-key-cryptography-intro	
ird Life			http://www.codeabbey.com/index/task_view/hard-life	
atches Picking			http://www.codeabbey.com/index/task_view/matches-picking	
angster Battles			http://www.codeabbey.com/index/task_view/gangster-battles	
mployees Web App			http://www.codeabbey.com/index/task_view/employees-web-app	
avelling Salesman			http://www.codeabbey.com/index/task_view/travelling-salesman	
A Cryptography			http://www.codeabbey.com/index/task_view/rsa-cryptography	
odo and Black Riders			http://www.codeabbey.com/index/task_view/frodo-and-black-riders	
ok and Say binary			http://www.codeabbey.com/index/task_view/look-and-say-binary	
bonacci Randomizer			http://www.codeabbey.com/index/task_view/fibonacci-randomizer	
velling Salesman Inverted			http://www.codeabbey.com/index/task_view/travelling-salesman-inverted	
nple 3D Scene			http://www.codeabbey.com/index/task_view/simple-3d-scene	
int in Polygon			http://www.codeabbey.com/index/task_view/point-in-polygon	
77 decompression			http://www.codeabbey.com/index/task_view/lz77-decompression	
eighborhood of a String			http://www.codeabbey.com/index/task_view/neighborhood-of-a-string	
amming Codes			http://www.codeabbey.com/index/task_view/hamming-codes	
bik's Cube			http://www.codeabbey.com/index/task_view/rubiks-cube	
eam Cipher Breaking			http://www.codeabbey.com/index/task_view/stream-cipher-breaking	
ding Window Search			http://www.codeabbey.com/index/task_view/sliding-window-search	
nirp primE			http://www.codeabbey.com/index/task_view/emirp-prime	
ound Zero			http://www.codeabbey.com/index/task_view/ground-zero	
adient Descent for SLE			http://www.codeabbey.com/index/task_view/gradient-descent-for-system-of-linear-equation	nne.
rmat goes hacking RSA				<u> </u>
Iliding Balls			http://www.codeabbey.com/index/task_view/fermat-goes-hacking-rsa http://www.codeabbey.com/index/task_view/colliding-balls	
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mple 3D Scene (cont)			http://www.codeabbey.com/index/task_view/simple-3d-scene-cont	
ancing Pairs			http://www.codeabbey.com/index/task_view/dancing-pairs	
cket Puzzle blor Cubes Advanced			http://www.codeabbey.com/index/task_view/ticket-puzzle	
			http://www.codeabbey.com/index/task_view/color-cubes-advanced	
age Rank as Eigenvector			http://www.codeabbey.com/index/task_view/page-rank-as-eigenvector	
zz Buzz in Asm			http://www.codeabbey.com/index/task_view/fizz-buzz-in-asm	
-Tac-Toe Minimax Algorithm			http://www.codeabbey.com/index/task_view/tic-tac-toe-minimax-algorithm	
me Chains			http://www.codeabbey.com/index/task_view/prime-chains	
aze of the Wumpus			http://www.codeabbey.com/index/task_view/maze-of-the-wumpus	
aximum Flow			http://www.codeabbey.com/index/task_view/maximum-flow	
night's Tour			http://www.codeabbey.com/index/task_view/knights-tour	
axit Single-Player			http://www.codeabbey.com/index/task_view/maxit-single-player	
ae Robot			http://www.codeabbey.com/index/task_view/algae-robot	
ffix Array Advanced			http://www.codeabbey.com/index/task_view/suffix-array-advanced	
andering Star			http://www.codeabbey.com/index/task_view/wandering-star	
ustering the Stars			http://www.codeabbey.com/index/task_view/clustering-the-stars	
D to Hex			http://www.codeabbey.com/index/task_view/bcd-to-hex	
mple Game of Sticks			http://www.codeabbey.com/index/task_view/simple-game-of-sticks	
onnect Four			http://www.codeabbey.com/index/task_view/connect-four	
utomated Landing			http://www.codeabbey.com/index/task_view/automated-landing	
cro-Life			http://www.codeabbey.com/index/task_view/micro-life	

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Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
Magic 8 Ball	I'm sure you've used a magic 8 ball at one point in your life. You ask it a question, turn it right side up and it gives an answer by way of a floating die with responses written on it. You can create one in python.		https://www.reddit.com/r/beginnerprojects/comments/29aqox/project_magic_8_ball/	
99 Bottles of Beer on the Wall Lyrics	Create a program that prints out every line to the song "99 bottles of beer on the wall."		https://www.reddit.com/r/beginnerprojects/comments/19kxre/project_99_bottles_of_beer_	on_the_wall_lyrics/
Pythagorean Triples Checker	Create a program that allows the user to input the sides of any training and then return whether the triangle is a Pythagorean Triple or not.		https://www.reddit.com/r/beginnerprojects/comments/19jwi6/project_pythagorean_triples	checker/
Coin Estimator By Weight	Create a program that allows the user to input the total weight of each type of coin they have (pennies, nickels, dimes, and quarters), and then print out how many of each type of wrapper they would need, how many coins they have, and the estimated total value of all of their money.		https://www.reddit.com/r/beginnerprojects/comments/1idqw1/project_coin_estimator_by_	weight/
Mad Libs Story Maker	Create a Mad Libs style game, where the program asks the user for certain types of words, and then prints out a story with the words that the user inputted. The story doesn't have to be too long, but it should have some sort of story line.		https://www.reddit.com/r/beginnerprojects/comments/1i8vt5/project_mad_libs_story_mak	rer/
Change Calculator	Imagine that your friend is a cashier, but has a hard time counting back change to customers. Create a program that allows him to input a certain amount of change, and then print how how many quarters, dimes, nickels, and pennies are needed to make up the amount needed.		https://www.reddit.com/r/beginnerprojects/comments/19ikn8/project_change_calculator/	
Mean, Median, and Mode	Create three functions that allow the user to find the mean, median, and mode of a list of numbers. If you have access or know of functions that already complete these tasks, do not use them.		https://www.reddit.com/r/beginnerprojects/comments/1eqt8i/function_mean_median_and	L_mode/
Higher-Lower Guessing Game	Create a simple game where the computer randomly selects a number between 1 and 100 and the user has to guess what the number is. After every guess, the computer should tell the user if the guess is higher or lower than the answer. When the user guesses the correct number, print out a congratulatory message.		https://www.reddit.com/r/beginnerprojects/comments/19jj9a/project_higherlower_guessin	ig_game/
Multiplication Table	Create a program that prints out a multiplication table for the numbers 1 through 9. It should include the numbers 1 through 9 on the top and left axises, and it should be relatively easy to find the product of two numbers. Do not simply write out every line manually (ie print('7 14 21 28 35 49 56 63')).		https://www.reddit.com/r/beginnerprojects/comments/2agwnq/project_multiplication_table	<u>ə</u>

Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
Fibonacci Sequence	Define a function that allows the user to find the value of the nth term in the sequence. To make sure you've written your function correctly, test the first 10 numbers of the sequence. Remember, the 0th term is 0 and the first and second term are both 1.		https://www.reddit.com/r/beginnerprojects/comments/19r3qg/functionfibonacci_sequence/	
Hangman Game	Create a program that selects a random word and then allows the user to guess it in a game of hangman. Like the real game, there should be blank spots for each letter in the word, and a part of the body should be added each time the user guesses a letter than is not in the answer (you may choose how many wrong turns the user can make until the game ends).		https://www.reddit.com/r/beginnerprojects/comments/1irw2j/project_hangman_game/	
Menu Calculator	Imagine you have started up a small restaurant and are trying to make it easier to take and calculate orders. If your restaurant only sells 9 different items, you assign each one to a number, as shown below. Chicken Strips \$3.50 French Fries - \$2.50 Hamburger - \$4.00 Hotdog - \$3.50 Large Drink - \$1.75 Medium Drink - \$1.50 Milk Shake - \$2.25 Salad - \$3.75 Small Drink - \$1.25 To quickly take orders, your program should allow the user to type in a string of numbers and then it should calculate the cost of the order. For example, if one large drink, two small drinks, two hamburgers, one hotdog, and a salad are ordered, the user should type in 5993348, and the program should say that it costs \$19.50. Also, make sure that the program loops so the user can take multiple orders without having to restart the program each time.		https://www.reddit.com/r/beginnerprojects/comments/1bytu5/projectmenu_calculator/	
Dice Rolling Simulator	By using the random module, python can do things like pseudo-random number generation. So in this program, allow the user to input the amount of sides on a dice and how many times it should be rolled. From there, your program should simulate dice rolls and keep track of how many times each number comes up (this does not have to be displayed). After that, print out how many times each number came up.		https://www.reddit.com/r/beginnerprojects/comments/1j50e7/project_dice_rolling_simulato	<u>d</u>
Dice Simulator	You are about to play a board game, but you realize you don't have any dice. Fortunately you have this program. 1. Create a program that opens a new window and draws 2 six-sided dice 2. Allow the user to quit, or roll again		https://www.reddit.com/r/beginnerprojects/comments/2aaeou/projectcreate_a_dice_simula	itor/

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Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
Count and Fix Green Eggs and Ham	Some of you may remember the Dr. Sues story "Green Eggs and Ham". For those of you that don't remember it or have never heard of it, here is the story. However, there is a problem with the story I gave you - every time the word I is used, it is lowercase. Because of this problem, your job is to do the following 1. Copy the story I gave you into a regular text file. 2. Create a program that reads through the story and makes the letter I uppercase any time it should be. (Make sure to change it when it's used in sam-l-am's name too.) 3. Have your program make a new file, and have it write out the story correctly. 4. Print out how many errors were corrected.		https://www.reddit.com/r/beginnerprojects/comments/1i6sax/challenge_count_and_fix_gree	http://imgur.com/GRkj3yz
What's My Number	Between 1 and 1000, there is only 1 number that meets the following criteria. While it could be manually figured out with pen and paper, it would be much more efficient to write a program that would ob this for you. With that being said, your goal is to find out which number meets these criteria. To find out if you have the correct number, click the link at the bottom of this main post. 1)The number has two or more digits. 2)The number does NOT contain a 1 or 7. 4)The sum of all of the digits is less than or equal to 10. 5)The first two digits add up to be odd. 6)The second to last digit is even. 7)The last digit is equal to how many digits are in the number.		https://www.reddit.com/r/beginnerprojects/comments/1dbena/challenge_whats_my_numbe	http://imgur.com/jbz4nJ4
Factors of a Number	Define a function that creates a list of all the numbers that are factors of the user's number. For example, if the function is called factor, factor(36) should return [1,2,3,4,6,9,12,18,36]. The numbers in your list should be from least to greatest, and 1 and the original number should be included.		https://www.reddit.com/r/beginnerprojects/comments/1a0d82/function_factors_of_a_numbs	art/
Countdown Clock	Create a program that allows the user to choose a time and date, and then prints out a message at given intervals (such as every second) that tells the user how much longer there is until the selected time. SUBGOALS 1) If the selected time has already passed, have the program tell the user to start over. 2) If your program asks for the year, month, day, hour, etc. separately, allow the user to be able to type in either the month name or its number. TIP: Making use of built in modules such as time and datetime can change this project from a nightmare into a much simpler task.		https://www.reddit.com/r/beginnerprojects/comments/1bvdmq/project_countdown_clock/	

Project Name	Project Description	Category	Link to Project Description	Link to Project Solution	
im Based Pokemon Style Game	Write a simple game that allows the user and the computer to take turns selecting moves to use against each other. Both the computer and the player should start out at the same amount of health (such as 100), and should be able to choose between the three moves: 1) The first move should do moderate damage and has a small range (such as 18-25). 2) The second move should have a large range of damage and can deal high or low damage (such as 10-35). 3) The third move should heal whoever casts it a moderate amount, similar to the first move. After each move, a message should be printed out that tells the user what just happened, and how much health the user and computer have. Once the user or the computer's health reaches 0, the game should end. SUBGOALS 1) When someone is defeated, make sure the game prints out that their health has reached 0, and not a negative number. 2) When the computer's health reaches a set amount (such as 35%), increase it's chance to cast heal. 3) Give each move a name.		https://www.reddit.com/r/beginnerprojects/comments/1aw0i	ig/project_turn_based_pokemon_style_game/	

oject Name	Project Description	Category	Link to Project Description	Link to Project Solution
Variation of 21	In this project, you will make a		https://www.reddit.com/r/beginnerprojects/comments/19ot36/project a variation of 21/	
	game similar to 21/blackjack.			
	Since this is not an actual game			
	(as far as I'm aware of), here the			
	the instructions for how to play. In			
	this version, there is only one			
	player, and there are two types of			
	scores - the round score and the			
	game score. The game score will			
	begin at 100, and the game will			
	last for five rounds. At the			
	beginning of the round, the player			
	is given two random cards from a			
	deck and they will be added			
	together to make the player's			
	round score. From here, the			
	player has two options - draw			
	another card to try to get their			
	round score closer to 21, or they			
	can end the round. The player			
	can draw as many cards as they			
	want until they end the round or			
	their round score exceeds 21. At			
	the end of the round, the			
	difference between 21 and the			
	round score is subtracted from the			
	game score, and then the next			
	round begins. After the five			
	rounds, the player is given their			
	total score and the game is over.			
	So the point of your program is to			
	allow the user to play the game			
	described above. Many of the			
	subgoals listed below can be			
	added to shine up the game. SUBGOALS 1) At the beginning			
	of each round, print the round number (1 to 5). 2) Since this is a			
	text base game, tell the user what			
	is happening. For example, tell			
	him/her when he/she draws a			
	card, the name of the card, when			
	they bust, etc. 3) Create a ranking			
	system at the end of the game			
	and tell the user their rank. For			
	example, if the player finishes with			
	50-59 points they get an F, 60-69			
	is a D, 70-79 is a C, 80-89 is a B,			
	and 90-100 is an A. 4) At the end			
	of each round, print out the user's			
	total score. 5) This may be the			
	hardest part of the project,			
	depending on how you wrote it.			
	Make sure the deck has 4 of each			
	type of card, and then remove			
	cards as they are drawn. At the			
	end of each round, make the deck			
	have all of the cards again.			

Project Name	Project Description	Category	Link to Project Description	Link to Project Solution	
Compare Recent Karma	BACKGROUND Since we're all		https://www.reddit.com/r/beginnerprojects/comment	s/1i951e/project_compare_recent_karma/	
	redditors here, let's make				
	something dealing with reddit. If				
	you go to a user's profile and add				
	.json to the end of it, you can get				
	the all sorts of Json data about				
	the user (think of Json as a giant				
	dictionary of smaller dictionaries				
	and lists). For example, if I go to				
	my own profile and view it's Json				
	data, it would look like this. At first				
	it might look intimidating, but if				
	you break it down, you can see it's just one giant dictionary with				
	all sorts of information about my				
	latest posts. GOAL Create a				
	program that gets information				
	about two different users, and				
	then sees whose most recent post				
	received the most karma. The				
	program should then print out				
	which user received more karma,				
	and what the difference was. This				
	is a pretty open project, so I				
	encourage you to take it further by				
	adding more features if you find it				
	interesting. Remember - Elements	;			
	in a list are referenced by their				
	index numbers while entries in a				
	dictionary are referenced by their keys. SUBGOALS 1) Allow the				
	user to put in the name of two				
	different users when the program				
	first begins. 2) If one of the names				
	of the users does not exist				
	(because of a spelling error), print				
	out a message saying so. 3) Allow				
	the user to keep comparing other				
	users until the program is closed.				
	4) Display the amount of upvotes				
	and downvotes each user				
	received for their posts. Not sure				
	how to turn json data into usable				
	python data? Check this out.				

oject Name	Project Description	Category	Link to Project Description
atch for new TIL facts	BACKGROUND If you finished		https://www.reddit.com/r/beginnerprojects/comments/1iqg6p/project_watch_for_new_til_facts/
	the previous project which		
	compared the karma of two new		
	comments, hopefully you learned		
	a thing or two about receiving		
	data from Reddit's API. Now		
	you're going to take this a step		
	further, and even have the		
	opportunity to make a basic twitter		
	bot. GOAL Create a program that		
	receives data from the		
	/r/todayilearned subreddit, and		
	looks for new facts that have been		
	posted. Each time the program		
	comes across a new fact, the fact		
	should be printed into the		
	command line. However, phrases		
	like "TIL ", "TIL that", etc should		
	be removed so the only thing that		
	is printed is the fact. There are a		
	couple things to note about this		
	since you'll more than likely be		
	using a loop to check for new		
	posts. According to Reddit's API		
	Access Rules Page, the API		
	pages are only updated once		
	every thirty seconds, so you'll		
	have to have your code pause for		
	at least thirty seconds before it		
	tries to find more posts. Secondly,		
	if for some reason you decide to		
	try to get data sooner than every		
	thirty seconds, make sure to not		
	send more than thirty requests per		
	minute. That is the maximum you		
	are allowed to do. SUBGOALS		
	(optional) There is actually a lot		
	you can do once your program		
	starts receiving facts. Instead of		
	simply printing the facts, here are		
	some ideas for what you can do		
	with them. If you currently do not		
	feel like you can accomplish these		
	ideas, feel free to come back later		
	when you have more experience.		
	Print the link to the source of		
	the fact too. 2) Try to further clean		
	up the fact by adding punctuation		
	to the end if it is missing, capitalize the first word, etc. 3)		
	Write the facts to a separate text		
	file so you end up with a giant		
	compilation of random facts. 4)		
	Create a bot that posts the facts		
	to twitter. This may sound hard,		
	but it's actually pretty simple by		
	using the "Python Twitter Tools"		
	module and following the guide		
	posted here. Remember, the		
	maximum amount of characters		
	you can use in a tweet is only		
	140, so you'll have to filter out		
	facts that are longer than that.		

Project Name	Project Description	Category	Link to Project Description Link to Project Solution
roject Name andom Wikipedia Article	BACKGROUND If you've been to Wikipedia, you may have noticed that there is a link to a random article on the left side of the screen. While it can be fun to see what article you get taken to, sometimes it would be nice to see the name of the article so you can skip it if if sounds boring. Luckily, Wikipedia has an API that allows us to do so. However, there is a dilemma. Since Wikipedia has articles about topics from all over the world, some of them have special characters in the title. For example, the article about the spanish painter Erasto Cortés Juárez has é and á in it. If you look at this specific article's API, you will see that the title is "Erasto Cortu00e9s Julu00e1 rez" and that the wu0e9 and \u00bc9 ard that the wu0e9 in the first half of this page in the documentation). To make your program work, you're going to have to handle this problem somehow. GOAL Create a program that pulls titles from the official Wikipedia API and then asks the user one by one if he or she would like to read about that article. So if the first title is Reddit, then the program should ask something along the lines of		Link to Project Description https://www.reddit.com/r/beginnerprojects/comments/1jg2ru/project_random_wikipedia_article/
	Cort\u00e9s Ju\u00e1rez" and that the \u00e9 and \u00e1 are replacing the two previously mentioned letters. (For information about what this is,		
	of this page in the documentation). To make your program work, you're going to have to handle this problem somehow. GOAL Create a program that pulls titles from the official Wikipedia API and then asks the user one by one if he or she would like to read about that article. So if the first title is Reddit,		
	"Would you like to read about Reddit?" If the user says yes, then the program should open up the article for the user to read. SUBGOALS 1) As mentioned before, do something about the		
	possibility of unicode appearing in the title. Whether you want your program to simply filter out these articles or you want to actually turn the codes into readable characters, that's up to you. 2) Make the program pause once		
	the user has selected an article to read, and allow him or her to continue browsing different article titles once finished reading. 3) Allow the user to simply press ENTER to be asked about a new article.		

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Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
What's the Weather?	GOAL Create a program that pulls data from Open/WeatherMap.org that prints out information about the current weather, such as the high, the low, and the amount of rain for wherever you live. Depending on how skilled you are, you can actually do some neat stuff with this project. SUBGOALS 1) Print out data for the next 5-7 days so you have a 5 day/week long forecast. 2) Print the data to another file that you can open up and view at, instead of viewing the information in the command line. 3) If you know html, write a file that you can print information to so that your project is more interesting. TIPS APIs that are in Json are essentially lists and dictionaries. Remember that to reference something in a list, you must refer to it by what number element it is in the list, and to reference a key in a dictionary, you must refer to it by it's name. Don't like Celsius? Add &units=imperial to the end of the URL of the API to receive your data in Estepativit.		https://www.reddit.com/r/beginnerprojects/comments/1dzbu7/project_whats_the_weather/	
	data in Fahrenheit.			
Find PI to the Nth Digit	Enter a number and have the program generate PI up to that many decimal places. Keep a limit to how far the program will go.	Numbers	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Find e to the Nth Digit	Just like the previous problem, but with e instead of Pl. Enter a number and have the program generate e up to that many decimal places. Keep a limit to how far the program will go.	Numbers	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Fibonacci Sequence	Enter a number and have the program generate the Fibonacci sequence to that number or to the Nth number.	Numbers	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Prime Factorization	Have the user enter a number and find all Prime Factors (if there are any) and display them.	Numbers	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Next Prime Number	Have the program find prime numbers until the user chooses to stop asking for the next one.	Numbers	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Find Cost of Tile to Cover W x H Floor	would take to cover a floor plan of width and height, using a cost entered by the user.	Numbers	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Mortgage Calculator	of a fixed term mortgage over given Nth terms at a given interest rate. Also figure out how long it will take the user to pay back the loan. For added complexity, add an option for users to select the compounding interval (Monthly, Weekly, Daily, Continually).	Numbers	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Change Return Program	The user enters a cost and then the amount of money given. The program will figure out the change and the number of quarters, dimes, nickels, pennies needed for the change.	Numbers	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Binary to Decimal and Back Converter	Develop a converter to convert a decimal number to binary or a binary number to its decimal equivalent.	Numbers	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions

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Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
Calculator	A simple calculator to do basic operators. Make it a scientific calculator for added complexity.	Numbers	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Unit Converter (temp, currency, volume,	Converts various units between one another. The user enters the type of unit being entered, the type of unit they want to convert to and then the value. The program will then make the conversion.	Numbers	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Alarm Clock	A simple clock where it plays a sound after X number of minutes/seconds or at a particular time.	Numbers	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Distance Between Two Cities	Calculates the distance between two cities and allows the user to specify a unit of distance. This program may require finding coordinates for the cities like latitude and longitude.	Numbers	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Credit Card Validator	Takes in a credit card number from a common credit card vendor (Visa, MasterCard, American Express, Discoverer) and validates it to make sure that it is a valid number (look into how credit cards use a checksum).	Numbers	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Tax Calculator	Asks the user to enter a cost and either a country or state tax. It then returns the tax plus the total cost with tax.	Numbers	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Factorial Finder	The Factorial of a positive integer, n, is defined as the product of the sequence n, n-1, n-2,1 and the factorial of zero, 0, is defined as being 1. Solve this using both loops and recursion.	Numbers	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Complex Number Algebra	Show addition, multiplication, negation, and inversion of complex numbers in separate functions. (Subtraction and division operations can be made with pairs of these operations.) Print the results for each operation tested.	Numbers	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
	A happy number is defined by the following process. Starting with any positive integer, replace the number by the sum of the squares of its digits, and repeat the process until the number equals 1 (where it will stay), or it loops endlessly in a cycle which does not include 1. Those numbers for which this process ends in 1 are happy numbers, while those that do not end in 1 are unhappy numbers. Display an example of your output here. Find first 8 happy numbers.		https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Number Names	Show how to spell out a number in English. You can use a preexisting implementation or roll your own, but you should support inputs up to at least one million (or the maximum value of your language's default bounded integer type, if hat's less). Optional: Support for inputs other than positive integers (like zero, negative integers, and floating-point numbers).	Numbers	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions

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Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
Coin Flip Simulation	Write some code that simulates flipping a single coin however many times the user decides. The code should record the outcomes and count the number of tails and heads.	Numbers	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Limit Calculator	Ask the user to enter f(x) and the limit value, then return the value of the limit statement Optional: Make the calculator capable of supporting infinite limits.	Numbers	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Fast Exponentiation	Ask the user to enter 2 integers a and b and output a^b (i.e. pow(a, b)) in O(lg n) time complexity.	Numbers	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Collatz Conjecture	Start with a number n > 1. Find the number of steps it takes to reach one using the following process: If n is even, divide it by 2. If n is odd, multiply it by 3 and add 1.	Classic Algorithms	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Sorting	Implement two types of sorting algorithms: Merge sort and bubble sort.	Classic Algorithms	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Closest pair problem	The closest pair of points problem or closest pair problem is a problem of computational geometry: given n points in metric space, find a pair of points with the smallest distance between them.		https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Sieve of Eratosthenes	The sieve of Eratosthenes is one of the most efficient ways to find all of the smaller primes (below 10 million or so).	-	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Graph from links	Create a program that will create a graph or network from a series of links.	Graph	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Eulerian Path	Create a program which will take as an input a graph and output either a Eulerian path or a Eulerian cycle, or state that it is not possible. A Eulerian Path starts at one node and traverses every edge of a graph through every node and finishes at another node. A Eulerian cycle is a eulerian Path that starts and finishes at the same node.	Graph	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Connected Graph	Create a program which takes a graph as an input and outputs whether every node is connected or not.	Graph	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Dijkstra's Algorithm	Create a program that finds the shortest path through a graph using its edges.	Graph	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Minimum Spanning Tree	Create a program which takes a connected, undirected graph with weights and outputs the minimum spanning tree of the graph i.e., a subgraph that is a tree, contains all the vertices, and the sum of its weights is the least possible.		https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Inverted index	An Inverted Index is a data structure used to create full text search. Given a set of text files, implement a program to create an inverted index. Also create a user interface to do a search using that inverted index which returns a list of files that contain the query term / terms. The search index can be in memory.		https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions

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roject Name		Category	Link to Project Description	Link to Project Solution
izz Buzz	Write a program that prints the numbers from 1 to 100. But for multiples of three print "Fizz" instead of the number and for the multiples of five print "Buzz". For numbers which are multiples of both three and five print "FizzBuzz".	Text	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Reverse a String	Enter a string and the program will reverse it and print it out.	Text	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
ig Latin	Pig Latin is a game of alterations played on the English language game. To create the Pig Latin form of an English word the initial consonant sound is transposed to the end of the word and an ay is affixed (Ex.: "banana" would yield anana-bay). Read Wikipedia for more information on rules.	Text	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Count Vowels	Enter a string and the program counts the number of vowels in the text. For added complexity have it report a sum of each vowel found.	Text	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
check if Palindrome	Checks if the string entered by the user is a palindrome. That is that it reads the same forwards as backwards like "racecar"	Text	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Count Words in a String	Counts the number of individual words in a string. For added complexity read these strings in from a text file and generate a summary.	Text	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
ext Editor	Notepad style application that can open, edit, and save text documents. Optional: Add syntax highlighting and other features.	Text	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
RSS Feed Creator	Given a link to RSS/Atom Feed, get all posts and display them.	Text	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Quote Tracker (market symbols etc)	A program which can go out and check the current value of stocks for a list of symbols entered by the user. The user can set how often the stocks are checked. For CLI, show whether the stock has moved up or down. Optional: If GUI, the program can show green up and red down arrows to show which direction the stock value has moved.	Text	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
suestbook / Journal		Text	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
/igenere / Vernam / Ceasar Ciphers	Functions for encrypting and decrypting data messages. Then send them to a friend.	Text	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
egex Query Tool	A tool that allows the user to enter a text string and then in a separate control enter a regex pattern. It will run the regular expression against the source text and return any matches or flag errors in the regular expression.		https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
TP Program	A file transfer program which can transfer files back and forth from a remote web sever.	Networking	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions

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Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
Bandwidth Monitor	A small utility program that tracks how much data you have uploaded and downloaded from the net during the course of your current online session. See if you can find out what periods of the day you use more and less and generate a report or graph that shows it.	Networking	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Port Scanner	Enter an IP address and a port range where the program will then attempt to find open ports on the given computer by connecting to each of them. On any successful connections mark the port as open.	Networking	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Mail Checker (POP3 / IMAP)	The user enters various account information include web server and IP, protocol type (POP3 or IMAP) and the application will check for email at a given interval.	Networking	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Country from IP Lookup	Enter an IP address and find the country that IP is registered in. Optional: Find the Ip automatically.	Networking	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Whois Search Tool	Enter an IP or host address and have it look it up through whois and return the results to you.	Networking	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Site Checker with Time Scheduling	An application that attempts to connect to a website or server every so many minutes or a given time and check if it is up. If it is down, it will notify you by email or by posting a notice on screen.	Networking	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Product Inventory Project	Create an application which manages an inventory of products. Create a product class which has a price, id, and quantity on hand. Then create an inventory class which keeps track of various products and can sum up the inventory value.		https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Airline / Hotel Reservation System	Create a reservation system which books airline seats or hotel rooms. It charges various rates for particular sections of the plane or hotel. Example, first class is going to cost more than coach. Hotel rooms have penthouse suites which cost more. Keep track of when rooms will be available and can be scheduled.		https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Company Manager	Create an hierarchy of classes - abstract class Employee and subclasses HourlyEmployee, SalariedEmployee, Manager and Executive. Every one's pay is calculated differently, research a bit about it. After you've established an employee hierarchy, create a Company class that allows you to manage the employees. You should be able to hire, fire and raise employees.	Classes	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Bank Account Manager	Create a class called Account which will be an abstract class for three other classes called CheckingAccount, SavingsAccount and BusinessAccount. Manage credits and debits from these accounts through an ATM style program.	Classes	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions

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roject Name	Project Description	Category	Link to Project Description	Link to Project Solution
Patient / Doctor Scheduler	Create a patient class and a doctor class. Have a doctor that can handle multiple patients and setup a scheduling program where a doctor can only handle 16 patients during an 8 hr work day.	Classes	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Recipe Creator and Manager	Create a recipe class with ingredients and a put them in a recipe manager program that organizes them into categories like deserts, main courses or by ingredients like chicken, beef, soups, pies etc.	Classes	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
mage Gallery	Create an image abstract class and then a class that inherits from it for each image type. Put them in a program which displays them in a gallery style format for viewing.		https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Shape Area and Perimeter Classes	Create an abstract class called Shape and then inherit from it other shapes like diamond, rectangle, circle, triangle etc. Then have each class override the area and perimeter functionality to handle each shape type.	Classes	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Flower Shop Ordering To Go	Create a flower shop application which deals in flower objects and use those flower objects in a bouquet object which can then be sold. Keep track of the number of objects and when you may need to order more.	Classes	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
amily Tree Creator	Create a class called Person which will have a name, when they were born and when (and if) they died. Allow the user to create these Person classes and put them into a family tree structure. Print out the tree to the screen.	Classes	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Create A Progress Bar for Downloads	Create a progress bar for applications that can keep track of a download in progress. The progress bar will be on a separate thread and will communicate with the main thread using delegates.		https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Bulk Thumbnail Creator	Picture processing can take a bit of time for some transformations. Especially if the image is large. Create an image program which can take hundreds of images and converts them to a specified size in the background thread while you do other things. For added complexity, have one thread handling re-sizing, have another bulk renaming of thumbnails etc.	Threading	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Page Scraper	Create an application which connects to a site and pulls out all links, or images, and saves them to a list. Optional: Organize the indexed content and don't allow duplicates. Have it put the results into an easily searchable index file.	Web	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Online White Board	Create an application which allows you to draw pictures, write notes and use various colors to flesh out ideas for projects. Optional: Add feature to invite friends to collaborate on a white board online.	Web	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions

Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
Get Atomic Time from Internet Clock	· · · · · · · · · · · · · · · · · · ·	Web	https://qithub.com/karan/Projects	https://qithub.com/thekarangoel/Projects-Solutions
Set Atomic Time nom internet Glock	atomic time from an atomic time clock on the Internet. Use any one of the atomic clocks returned by a simple Google search.		ings/rymub.com/karam=rojects	inips.//gituub.com/ratekarangoe/r-rojects-Solutions
Fetch Current Weather	Get the current weather for a given zip/postal code. Optional: Try locating the user automatically.	Web	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
cheduled Auto Login and Action	Make an application which logs into a given site on a schedule and invokes a certain action and then logs out. This can be useful for checking web mail, posting regular content, or getting info for other applications and saving it to your computer.	Web	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
E-Card Generator	Make a site that allows people to generate their own little e-cards and send them to other people. Do not use Flash. Use a picture library and perhaps insightful mottos or quotes.	Web	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Content Management System	Create a content management system (CMS) like Joomla, Drupal, PHP Nuke etc. Start small. Optional: Allow for the addition of modules/addons.	Web	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Web Board (Forum)	Create a forum for you and your buddies to post, administer and share thoughts and ideas.	Web	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
CAPTCHA Maker	Ever see those images with letters a numbers when you signup for a service and then asks you to enter what you see? It keeps web bots from automatically signing up and spamming. Try creating one yourself for online forms.		https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Quiz Maker	Make an application which takes various questions from a file, picked randomly, and puts together a quiz for students. Each quiz can be different and then reads a key to grade the quizzes.	Files	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Sort Excel/CSV File Utility	Reads a file of records, sorts them, and then writes them back to the file. Allow the user to choose various sort style and sorting based on a particular field.	Files	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
create Zip File Maker	The user enters various files from different directories and the program zips them up into a zip file. Optional: Apply actual compression to the files. Start with Huffman Algorithm.		https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
PDF Generator	An application which can read in a text file, html file or some other file and generates a PDF file out of it. Great for a web based service where the user uploads the file and the program returns a PDF of the file. Optional: Deploy on GAE or Heroku if possible.		https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Mp3 Tagger	Modify and add ID3v1 tags to MP3 files. See if you can also add in the album art into the MP3 file's header as well as other ID3v2 tags.	Files	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions

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Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
Code Snippet Manager	Another utility program that allows coders to put in functions, classes or other tidbits to save for use later. Organized by the type of snippet or language the coder can quickly look up code. Optional: For extra practice try adding syntax highlighting based on the language.		https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
SQL Query Analyzer	A utility application which a user can enter a query and have it run against a local database and look for ways to make it more efficient.	Databases	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Remote SQL Tool	A utility that can execute queries on remote servers from your local computer across the Internet. It should take in a remote host, user name and password, run the query and return the results.		https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Report Generator	Create a utility that generates a report based on some tables in a database. Generates a sales reports based on the order/order details tables or sums up the days current database activity.	Databases	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Event Scheduler and Calendar	Make an application which allows the user to enter a date and time of an event, event notes and then schedule those events on a calendar. The user can the browse the calendar or search the calendar for specific events. Optional: Allow the application to create re-occurrence events that reoccur every day, week, month, year etc.		https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Budget Tracker	Write an application that keeps track of a household's budget. The user can add expenses, income, and recurring costs to find out how much they are saving or losing over a period of time. Optional: Allow the user to specify a date range and see the net flow of money in and out of the house budget for that time period.	Databases	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
TV Show Tracker	Got a favorite show you don't want to miss? Don't have a PVR or want to be able to find the show to then PVR it later? Make an application which can search various online TV Guide sites, locate the shows/times/channels and add them to a database application. The database/website then can send you email reminders that a show is about to start and which channel it will be on.	Databases	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Travel Planner System	Make a system that allows users to put together their own little travel timerary and keep track of the airline / hotel arrangements, points of interest, budget and schedule.	Databases	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Slide Show	Make an application that shows various pictures in a slide show format. Optional: Try adding various effects like fade in/out, star wipe and window blinds transitions.	Graphics and Multimedia	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Stream Video from Online	Try to create your own online streaming video player.	Graphics and Multimedia	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions

Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
Mp3 Player	A simple program for playing your favorite music files. Add features you think are missing from your favorite music player.			https://github.com/thekarangoel/Projects-Solutions
Watermarking Application	Have some pictures you want copyright protected? Add your own logo or text lightly across the background so that no one can simply steal your graphics off your site. Make a program that will add this watermark to the picture. Optional: Use threading to process multiple images simultaneously.	Graphics and Multimedia	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Turtle Graphics	This is a common project where you create a floor of 20 x 20 squares. Using various commands you tell a turtle to draw a line on the floor. You have move forward, left or right, lift or drop pen etc. Do a search online for "Turtle Graphics" for more information. Optional: Allow the program to read in the list of commands from a file.	·	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
GIF Creator	A program that puts together multiple images (PNGs, JPGs, TIFFs) to make a smooth GIF that can be exported. Optional: Make the program convert small video files to GIFs as well.	Graphics and Multimedia	https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Caesar cipher	encoding and decoding. The key is an integer from 1 to 25. This cipher rotates the letters of the alphabet (A to Z). The encoding replaces each letter with the 1st to 25th next letter in the alphabet (wrapping Z to A). So key 2 encrypts "HI" to "JK", but key 20 encrypts "HI" to "BC". This simple "monoalphabetic substitution cipher" provides almost no security, because an attacker who has the encoded message can either use frequency analysis to guess the key, or just try all 25 keys.		https://github.com/karan/Projects	https://github.com/thekarangoel/Projects-Solutions
Dodger	Several bad guys fall from the top of the screen, and the user must avoid them. The player can be controlled with the arrow keys or more directly with the mouse. The longer the player lasts without being hit, the higher the score. Variations: Have enemies fall at different rates and be different sizes. Have enemies fall from more than one side of the game. Have power up pickups that grant invulnerability for a while, slow down bad guys, give the player a temporary "reverse bad guys" power, etc.	Games	http://inventwithpython.com/blog/2012/02/20/i-need-practice-programming-49-ideas-for-gar	n http://inventwithpython.com/chapter20.html

http://www.linuxtrain	ingacademy.com		
Project Name	Project Description	Category	Link to Project Description
Memory Puzzle	A board full of overturned cards. The player flips over two cards. If hey player flips over two cards. If they match, then they stay overturned. Otherwise they flip back. The player needs to overturn all the cards in the fewest moves to win. Variations: Provide "hints" in the form of four possible matching cards after the player flips the first one. Or, quickly overturn groups of cards at the beginning of the game.	Games	http://inventwithpython.com/blog/2012/02/20/i-need-practice-programming-49-ideas-for-gan http://inventwithpython.com/pygame/chapter1.html
Sliding Puzzle	A 4x4 board of numbered tiles has one missing space and is randomly set up. To win the game, the player must slide tiles over to put the tiles back in order. Variants: Instead of numbers, you can have a scrambled picture cut up into 4x4 tiles.	Games	http://inventwithpython.com/blog/2012/02/20/i-need-practice-programming-49-ideas-for-gan http://inventwithpython.com/pygame/chapter4.html
Simon	Four colored buttons light up in a specific pattern. After displaying the pattern, the player must repeat the pattern by clicking the buttons in proper order. The pattern gets longer each time the player completes the pattern. If the player presses a wrong button, the game ends. Variant A nine-button version can add challenge to this game (but more than that would probably just be tedious.)	Games	http://inventwithpython.com/blog/2012/02/20/i-need-practice-programming-49-ideas-for-gan http://inventwithpython.com/pygame/chapter5.html
Nibbles	A worm or snake constantly moves around the board. The player controls the direction the "head" of the worm moves, and the worm must try to eat apples that randomly appear. Eating an apply causes the worm to grow in length. The game ends if the worm crashes into the edge of the board or into itself. Variants: Add walls to the level, instead of just a blank rectangle. Add power ups that the worm can pick up. Add bad guys that move around the board that the worm must avoid. Have two worms that the player must control simultaenously. Tron (see below) is a two-player variant of this game.		http://inventwithpython.com/blog/2012/02/20/i-need-practice-programming-49-ideas-for-gan http://inventwithpython.com/pygame/chapter6.html
Tetris	Shapes made up of four blocks fall from the top of the board. The player must rotate and place them to create full rows with no gaps. When a full row is made, the blocks in that row disappear and the blocks above it move down. The game ends if the board fills up.	Games	http://inventwithpython.com/blog/2012/02/20/i-need-practice-programming-49-ideas-for-gar http://inventwithpython.com/pygame/chapter7.html
Katamari Damacy	The original Katamari Damacy game was in a 3d world, but a 2d version is also easy to implement. The player controls a small object in a world of different-sized objects. Touching the smaller objects grows the player, touching the larger objects damages or shrinks the player. The player wins when they reach a certain size.		http://inventwithpython.com/blog/2012/02/20/i-need-practice-programming-49-ideas-for-gan http://inventwithpython.com/pygame/chapter8.html

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roject Name	Project Description	Category	Link to Project Description Link to Project Solution
Sokoban	The player is in a level with objects that need to be pushed over goals. The objects can only be pushed, they can't be pulled. This game does require some effort to design levels for, but Sokoban levels have been designed by others and published on the web. Variant: Add all sorts of level gimmicks: teleport tiles, conveyor belts, buttons that open doors/bridges, buttons that need an object left on them to keep a door open.	Games	http://inventwithpython.com/blog/2012/02/20/i-need-practice-programming-49-ideas-for-gan http://inventwithpython.com/pygame/chapter9.html
Othello	On a grid, a black and white player places tiles of their color on the board. The opponent's tiles between the newly placed tile and that player's existing tiles are flipped to become the color of the player's tiles. The game ends when the board fills up and the player with the most tiles of their color wins. Variant: Three player Othello with three different colors. Non-square boards.		http://inventwithpython.com/blog/2012/02/20/i-need-practice-programming-49-ideas-for-gan http://inventwithpython.com/pygame/chapter10.html
Flood It	A grid of six colors of tiles starts off randomly. The player can do a "flood fill" on the top left tile, changing the color of any adjacent tiles of thesame color. The player wins if they are able to make the entire board a single color within a certain number of moves. Variants: Power ups gained when a certain tile is changed.	Games	http://inventwithpython.com/blog/2012/02/20/i-need-practice-programming-49-ideas-for-gan http://inventwithpython.com/pygame/chapter10.html
Connect Four	Two players of different colors drop their tokens on an upright board. The player to make four tokens in a row, column, or diagonal wins. Creating an Al for this requires a simple minimax algorithm. Variant: Different board sizes. Walls inside the board that appear when the spaces beneath them are filled.	Games	http://inventwithpython.com/blog/2012/02/20/i-need-practice-programming-49-ideas-for-gan http://inventwithpython.com/pygame/chapter10.html
3ejewled	The board is filled with seven different types of jewels. The player can swap two adjacent jewels to form a three-in-a-row, causing the jewels to disappear and the jewels on top of them to fall down. Creating chain reactions gives bonus points. Variant: Different power ups for matching a particular jewel. Be able to sometimes swap jewels that are not adjacent to each other. Timed games.	Games	http://inventwithpython.com/blog/2012/02/20/i-need-practice-programming-49-ideas-for-gan http://inventwithpython.com/pygame/chapter10.html
Mancala		Games	http://inventwithpython.com/blog/2012/02/20/i-need-practice-programming-49-ideas-for-gan http://www.pygame.org/project-pyAwale-464-3779.html
Missile Command	Missiles are shot up from the ground to hit falling meteors before they hit cities. The missiles must be timed so that they reach their target at the same time that the meteor is there. Variants: See Rampart below. Different weapon types (the kind used in Scorched Earth) are also possible.	Games	http://inventwithpython.com/blog/2012/02/20/i-need-practice-programming-49-ideas-for-gan http://www.pygame.org/project-Patriot+Command-1394-2708.html

http://www.linuxtrainingac	cademy.com		
Project Name	Project Description	Category	Link to Project Description Link to Project Solution
Arkanoid	The player controls a paddle that bounces a ball off of bricks in the level. The bricks break when the ball bounces off of them. The level is cleared when all the bricks are destroyed. Variants: Power ups fall from smashed blocks, including; triple ball, longer paddle, ball breaks through bricks, a laser shoots out from the paddle.	Games	http://inventwithpython.com/blog/2012/02/20/i-need-practice-programming-49-ideas-for-gan http://www.pygame.org/project-Arkanoid-1422html
Maze	Player runs through a maze to the exit. This is more of an exercise in writing maze-generation algorithms. Variants: Teleports, buttons to control doors, keys to unlock doors, having multiple characters to move around that must work in sync to unblock each other's paths.		http://inventwithpython.com/blog/2012/02/20/i-need-practice-programming-49-ideas-for-gan http://www.pygame.org/project-Bipo+Maze-2159html
Reverse a String	Enter a string and the program will reverse it and print it out.	Text	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/
Pig Latin	Pig Latin is a game of alterations played on the English language game. To create the Pig Latin form of an English word the initial consonant sound is transposed to the end of the word and an ay is affixed (Ex.: "banana" would yield anana-bay). Read Wikipedia for more information on rules.		http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/
Count Vowels	Enter a string and the program counts the number of vowels in the text. For added complexity have it report a sum of each vowel found.	Text	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/
Check if Palindrome	Checks if the string entered by the user is a palindrome. That is that it reads the same forwards as backwards like "racecar"	Text	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/
Count Words in a String	Counts the number of individual words in a string. For added complexity read these strings in from a text file and generate a summary.	Text	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/
Text Editor	Notepad style application that can open, edit, and save text documents. Add syntax highlighting and other features.	Text	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/
RSS Feed Creator	A program which can read in text from other sources and put it in RSS or Atom news format for syndication.	Text	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/
Post-it Notes Program	A program where you can add text reminders and post them. You can have the program also add popup reminders.	Text	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/
Quote Tracker (market symbols etc)	A program which can go out and check the current value of stocks for a list of symbols entered by the user. The user can set how often the stocks are checked and the program can show green up and red down arrows to show which direction the stock value has moved.		http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/
Guestbook / Journal	A simple application that allows people to add comments or write journal entries. It can allow comments or not and timestamps for all entries. Could also be made into a shout box.	Text	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/

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Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
News Ticker and Game Scores	A program which sits on your desktop and aggregates news and game scores from various sources on the net. It then scrolls them across the screen on regular intervals.	Text	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Fortune Teller (Horoscope)	A program that checks your horoscope on various astrology sites and puts them together for you each day.	Text	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Vigenere / Vernam / Ceasar Ciphers	Functions for encrypting and decrypting data messages. Then send them to a friend.	Text	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Random Gift Suggestions	Enter various gifts for certain people when you think of them. When its time to give them a gift (xmas, birthday, anniversary) it will randomly pick one and perhaps places you can get it.	Text	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Text to HTML Generator	Converts text files into web HTML files and stylizes them. Great for making online documentation of standard text documentation.	Text	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
CD Key Generator	Generates a unique key for your applications to use based on some arbitrary algorithm that you can specify. Great for software developers looking to make shareware that can be activated.	Text	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Regex Query Tool	A tool that allows the user to enter a text string and then in a separate control enter a regex pattern. It will run the regular expression against the source text and return any matches or flag errors in the regular expression.		http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
FTP Program	A file transfer program which can transfer files back and forth from a remote web sever.	Networking	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Get Atomic Time from Internet Clock	This program will get the true atomic time from an atomic time clock on the Internet. There are various clocks across the world. Do a search for a list of them.	Networking	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Chat Application (IRC or MSN style)	Create a chat application that can create simple chat rooms like on Internet Relay Chat (IRC) or a more direct chatting style like MSN. For added complexity, create your own protocol to facilitate this chatting.	Networking	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Fetch Current Weather	Get the current weather for a given zip/postal code.	Networking	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
P2P File Sharing App		Networking	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Port Scanner	Enter an IP address and a port range where the program will then attempt to find open ports on the given computer by connecting to each of them. On any successful connections mark the port as open.	Networking	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Mail Checker (POP3 / IMAP)	The user enters various account information include web server and IP, protocol type (POP3 or IMAP) and the application will check for email on several accounts at a given interval.	Networking	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	

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Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
Packet Sniffer	A utility program that will read packets coming in and out of the machine along with related information like destination and payload size.	Networking	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Country from IP Lookup	Enter an IP address and find the country that IP is registered in.	Networking	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Whois Search Tool	Enter an IP or host address and have it look it up through whois and return the results to you.	Networking	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Zip/Postal Code Lookup	Enter a zip or postal code and have it return which city/cities that are in that zip code.	Networking	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Remote Login	Create a remote desktop style application which can see and control the remote computer (given you have permissions). It may require the use of your own private network and a second computer to test with.	Networking	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Site Checker with Time Scheduling	An application that attempts to connect to a website or serviever every so many minutes or a given time and check if it is up. If it is down, it will notify you by email or by posting a notice on screen.		http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Small Web Server	A simple web server that can serve HTML files that contain Javascript and other forms of non- code executing code. Added complexity would be to try and implement streaming video, create a server-side language, or serve up other stream types.	Networking	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Web Bot	An automated program which carries out tasks on the web including checking websites, page scraping, and summarization of data or web posting.	Networking	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Product Inventory Project	Create an application which manages an inventory of products. Create a product class which has a price, id, and quantity on hand. Then create an inventory class which keeps track of various products and can sum up the inventory value.	Classes	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Movie Store	Manage video rentals and controls when videos are checked out, due to return, overdue fees and for added complexity create a summary of those accounts which are overdue for contact.		http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Airline/Hotel Reservation System	Create a reservation system which books airline seats or hotel rooms. It charges various rates for particular sections of the plane or hotel. Example, first class is going to cost more than coach. Hotel rooms have penthouse suites which cost more. Keep track of when rooms will be available and can be scheduled.		http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Student Gradebook Application	Keep track of students (with a student class that has their name, average, and scores) in a class and their grades. Assign their scores on tests and assignments to the students and figure out their average and grade for the class. For added complexity put the students on a bell curve.	Classes	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	

Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
Bank Account Manager	Create a class called "Account" which will be an abstract class for three other classes called "CheckingAccount", "SavingsAccount" and "BusinessAccount". Manage credits and debits from these accounts through an ATM style program.	Classes	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	·
Library Catalog	Create a book class with a title, page count, ISBN and whether or not it is checked out or not. Manage a collection of various books and allow the user to check out books or return books. For added complexity generate a report of those books overdue and any fees. Also allow users to put books on reserve.	Classes	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Create A Progress Bar for Downloads	Create a progress bar for applications that can keep track of a download in progress. The progress bar will be on a separate thread and will communicate with the main thread using delegates.	Threading	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Download Manager	Allow your program to download various files and each one is downloading in the background on a separate thread. The main thread will keep track of the other thread's progress and notify the user when downloads are completed.	Threading	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Chat Application (remote styling)	Create a chat application which allows you to connect directly to another computer by their IP through the use of remoting and allow your "server" application handle multiple incoming connections.	Threading	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Bulk Thumbnail Creator	Picture processing can take a bit of time for some transformations. Especially if the image is large. Create an image program which can take hundreds of images and converts them to a specified size in the background thread while you do other things. For added complexity, have one thread handling re-sizing, have another bulk renaming of thumbnails etc.	Threading	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
WYIWYG Editor	Create an editor online which allows people to move around elements, create tables, write text, set colors etc for web pages without having to know HTML. Think Dreamweaver or FrontPage but for online sites. If you need an example check out the DIC page used to create a post.	Web	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Web Browser with Tabs	Create a small web browser that allows you to navigate the web and contains tabs which can be used to navigate to multiple web pages at once. For simplicity don't worry about executing Javascript or other client side code.		http://www.dreamincode.net/forums/lopic/78802-martyr2s-mega-project-ideas-list/	

Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
Page Scraper		Web	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
File Downloader	An application which can download various objects on a page including video streams or all files on a page. Great for pages with a lot of download links.	Web	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Telnet Application	Create an application which can telnet into servers across the internet and run basic commands.	Web	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Online White Board	Create an application which allows you and friends to collaborate on a white board online. Draw pictures, write notes and use various colors to flesh out ideas for projects. For added complexity try building in picture tubes.	Web	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Bandwidth Monitor	A small utility program that tracks how much data you have uploaded and downloaded from the net during the course of your current online session. See if you can find out what periods of the day you use more and less and generate a report or graph that shows it.	Web	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Bookmark Collector and Sorter	An application that you can put online for people to upload bookmarks to, have it sort them, remove duplicates and export the entire list as a Firefox/IE/Safari bookmark file. For added complexity see if you can group the bookmark items into various folders.	Web	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Password Safe	A program which keeps track of passwords for sites or applications and encrypts them with a key so that no one can read them.	Web	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Media Player widget for iGoogle	Create an iGoogle gadget which can play various song lists from your computer as well as share one song daily. Perhaps let people look up which songs you have listened to lately.	Web	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Text-base Game Like Utopia	Create a simple text based RPG like Utopia where you can create a civilization, gather resources, forge alliances, cast spells and more on a turn based system. See if you can dominate the kingdom.	Web	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Scheduled Auto Login and Action	Make an application which logs into a given site on a schedule and invokes a certain action and then logs out. This can be useful for checking web mail, posting regular content, or getting info for other applications and saving it to your computer.	Web	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	

http://www.linuxtraining	academy.com			
Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
E-card Generator	Make a site that allows people to generate their own little e-cards and send them to other people. Can use flash or not. Use a picture library and perhaps insightful mottos or quotes.	Web	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Content Management System	Create a content management system (CMS) like Joomla, Drupal, PHP Nuke etc. Start small and allow for the addition of modules/addons later.	Web	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Template Maker	Make a site or application which allows the user to enter in various color codes, elements, dimensions and constructs a template file for a particular application like PHPBB, Invision Board, MySpace, Bebo, etc.	Web	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
CAPTCHA Maker	Ever see those images with letters a numbers when you signup for a service and then asks you to enter what you see? It keeps web bots from automatically signing up and spamming. Try creating one yourself for online forms. If you use PHP, take a look at the image functions of GD.		http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Quiz Maker	Make an application which takes various questions form a file, picked randomly, and puts together a quiz for students. Each quiz can be different and then reads a key to grade the quizzes.	Files	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Quick Launcher	A utility program that allows the user to assign various programs to icons on a toolbar. Then by clicking the buttons they can quickly launch the programs with parameters etc. Much like Windows quick launch.	Files	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
File Explorer	Create your own windows explorer program but with added features, better searching, new icons and other views.	Files	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Sort File Records Utility	Reads a file of records, sorts them, and then writes them back to the file. Allow the user to choose various sort style and sorting based on a particular field.	Files	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Add Transactions in File and Find A	verag Read in a file of financial transactions, group them into accounts, add up fields or find averages or apply credits and debits to each account.	Files	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Create ZIP File Maker	The user enters various files from different directories and maybe even another computer on the network and the program transfers them and zips them up into a zip file. For added complexity, apply actual compression to the files.	Files	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
PDF Generator	An application which can read in a text file, html file or some other file and generates a PDF file out of it. Great for a web based service where the user uploads the file and the program returns a PDF of the file.		http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	

Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
Bulk Renamer and Organizer	This program will take a series of files and renames them with a specific filename filter entered by the user. For instance if the user enters myimage###.jpg it will rename all files with a "minimum" of three numbers like "myimage001.jpg", "myimage145.jpg" or even "myimage1987.jpg" since 1987 has at least three numbers.		http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
MP3 Tagger	Modify and add ID3v1 tags to MP3 files. See if you can also add in the album art into the MP3 file's header as well as other ID3v2 tags.		http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Log File Maker	Make an application which logs various statistics in response to given events. This can be something that logs what an application does, what the system is doing, when something like a file changes etc.	Files	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Excel Spreadsheet Exporter	Create an online application which can read in a file and create an Excel Spreadsheet to export back. This can be through CVS or other file formats. For added complexity, see if you can create formula fields as well.		http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
RPG Character Stat Creator	Make a program which will randomly create a character's stats based on several rules set forth by the user. Have it generate a class, gender, strength/magic/dexterity points, and extra abilities or trades. Have it save it to a file which can then be printed out by a dungeon master.		http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Image Map Generator	Image maps are those images on the web that have multiple hover points that link to different pages. Such images may include maps or splash pages. See if you can make one where the user specifies an image, clicks hotspots in the image and specify links. It will then generate the HTML code to a file that the user can then copy and paste into their website to make the image map.		http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
File Copy Utility	Create a utility that can do bulk file copying and backups of other files.	Files	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Code Snippet Manager	Another utility program that allows coders to put in functions, classes or other tidbits to save for use later. Organized by the type of snippet or language the coder can quickly look up code. For extra practice try adding syntax highlighting based on the language.		http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Versioning Manager	Create your own versioning system for code files. Users are forced to check out items and lock items during reading and writing so that a group of programmers are not accidentally overwriting code files on one another.	Files	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	

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Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
SQL Query Analyzer	A utility application which a user can enter a query and have it run against a local database and look for ways to make it more efficient.	Databases	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Remote SQL Tool	A utilify that can execute queries on remote servers from your local computer across the Internet. It should take in a remote host, user name and password, run the query and return the results.	Databases	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Baseball/Other Card Collector	Create an online application for keeping track of a collection of cards. Let the user enter all cards in a set, check off which ones they have, which ones they need and generate lists of cards they are looking for. For extra complexity, have it sum up sets and generate reports on how close they are of completing sets or the current value of a set.	Databases	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Report Generator	Create a utility that generates a report based on some tables in a database. Generates a sales reports based on the order/order details tables or sums up the days current database activity.	Databases	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Database Backup Script Maker	A program which reads a database's objects, relationships, records and stored procedures and creates a .sql file which can then be imported into another database or kept as a backup file to rebuild the database with.	Databases	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Event Scheduler and Calendar	Make an application which allows the user to enter a date and time of an event, event notes and then schedule those events on a calendar. The user can then browse the calendar or specific events. For added complexity, allow the application to create reoccurrence events that reoccur every day, week, month, year etc.		http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Budget Tracker	Write an application that keeps track of a household's budget. The user can add expenses, income, and recurring costs to find out how much they are saving or losing over a period of time. For added complexity allow the user to specify a date range and see the net flow of money in and out of the house budget for that time period.		http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Address Book	Keep track of various contacts, their numbers, emails and little notes about them like a Rolodex in the database. For extra complexity, allow the user to connect to a website publish their address book based on specific options the user has set.	Databases	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	

http://www.linuxtrainingaca	demy.com			
Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
TV Show Tracker	Got a favorite show you don't want to miss? Don't have a PVR or want to be able to find the show to then PVR it later? Make an application which can search various online TV Guide sites, locate the shows/times/channels and add them to a database application. The database/website then can send you email reminders that a show is about to start and which channel it will be on.	Databases	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Travel Planner System	Make a system that allows users to put together their own little travel itinerary and keep track of the airline / hotel arrangements, points of interest, budget and schedule.	Databases	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Entity Relationship Diagram (ERD) Creat	A program that allows the user to put together ERD diagram and save it or have it generate some basic SQL syntax to give them a jump start.	Databases	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Database Translation (MySQL <-> SQL S	A simple utility that reads in from one database and constructs SQL compliant with another database. Then saves that to another database. One popular transition would be to and from MySQL server for databases like SQL Server and Oracle.	Databases	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Web Forum	Create a forum for you and your buddies to post, administer and share thoughts and ideas.	Databases	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Slide Show	Make an application that shows various pictures in a slide show format. For extra complexity try adding various effects like fade in/out, star wipe and window blinds transitions.	Graphics and Multimedia	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Mindmapper	Allow the user to put down ideas and quickly brainstorm how they are related into a mind map. The goal here is speed so let the user quickly write in an idea and drag it around in a visual map to show relationships.		http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Import Picture and Save as Grayscale	A utility that sucks the color right out of an image and saves it. You could add more including adjusting contrast, colorizing and more for added complexity.	Graphics and Multimedia	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Stream Video from Online	Try to create your own online streaming video player.	Graphics and Multimedia	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
MP3 Player and other formats		Graphics and Multimedia	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Bulk Picture Manipulator	This program will take in a directory of pictures and apply a certain effect to them whether it be reducing color count, changing its format, or alter file attributes. For something extra try to see if you can also create a system to tag them.		http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
CD Burning App	Create a utility that simply burns data to a CD.	Graphics and Multimedia	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	

http://www.linuxtrainir Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
YouTube Downloader	A program which can download videos to your hard drive from youtube.com. Save the files in various formats including FLV and AVI.	Graphics and Multimedia	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	Link to 1 roject dotation
Wallpaper Manager	Make a program which keeps track of your favorite wallpapers, changes them regularly and maybe even re-sizes them for your resolution (aka tiles one and stretches another)	Graphics and Multimedia	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Screen Capture Program	Make a utility that will simply capture a frame from your web cam. For added complexity see if you can also build in emailing functionality.	Graphics and Multimedia	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Image Browser	This application is used to view various image files on your computer from PNG, GIF, JPG to BMP, TIFF etc.	Graphics and Multimedia	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Traffic Light Application	See if you can make your own street light application and then put it into an intersection scenario. Don't let any cars run the lights and crash into one another!	•	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
MP3 to WAV Converter	MP3 is essentially compressed wav format. See if you can translate it back into wav so that some other sound editing programs can work with the wav file itself. Keep in mind that 1 MB of MP3 is relative 10MB wav.	Graphics and Multimedia	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Signature Maker	Ever seen those web board posts where someone has a generated signature made up? See if you can make a program that allows the user to specify a background, text, colors and alignment to make their own signatures or userbars.	·	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Screensaver Maker	Make a screensaver program that will run while your computer sits idle. To make a simple one use some standard pictures and then for added complexity try a 3D object that spins around the screen and bounces off the sides.	Graphics and Multimedia	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Watermarking Application	Have some pictures you want copyright protected? Add your own logo or text lightly across the background so that no one can simply steal your graphics off your site. Make a program that will add this watermark to the picture.		http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Turtle Graphics	This is a common project where you create a floor of 20 x 20 squares. Using various commands you tell a turtle to draw a line on the floor. You have move forward, left or right, lift or drop pen etc. For added complexity, allow the program to read in the list of commands from a file. Do a search online for "Turtle Graphics" for more information.		http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	

Project Name	Project Description	Category	Link to Project Description	Link to Project Solution
Battleship	Create two game boards and let each player place a number of war ships. Each player can't see the other person's board. They then take turns firing at one another by guessing one of the board squares. If the square they guess contains part of a ship, it is a hit. Otherwise it is a miss. They sink a ship when all squares containing that particular ship have been uncovered. The player wins when all their opponents' ships have been sunk.	Games	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Chess and Checkers	Simply put a game of chess or checkers. Try to make it playable online and if you can use a graphical user interface that can also undo or redo a step as well as keep a history of moves for replay.	Games	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Hangman	Randomly select a word from a file, have the user guess characters in the word. For each character they guess that is not in the word, have it draw another part of a man hanging in a noose. If the picture is completed before they guess all the characters, they lose.		http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Crossword Puzzle	Create a crossword puzzle which links words together on common letters. Provide a list of clues for each word and let the user enter fill in the words until the entire crossword is filled in.	Games	http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	
Frogger	Get your frog across the river and lanes of traffic by either jumping on logs and lily pads rushing by at different speeds or avoid the automobiles which are also moving at various speeds. Based on the old arcade game.		http://www.dreamincode.net/forums/topic/78802-martyr2s-mega-project-ideas-list/	