

6. MISCELLANEOUS COMMANDS

This chapter includes GAMBIT commands that are *not* directly associated with the procedures available on the GAMBIT **Operation** toolpad, such as geometry creation and meshing operations. GAMBIT miscellaneous commands can be grouped into the following categories.

- Default
- File
- Session
- Graphics/Windows Control
- Macro

The following sections describe the commands available in each category.

6.1 Default Commands

Default commands allow you to load and save files that contain program default settings and to review and modify program variable default values. There are two types of default commands:

- Initialization file
- Program variable

Default *initialization file* commands allow you to load and save initialization files. *Program variable* commands allow you to list current settings and to modify current program variable default values.

The following sections summarize the purpose, form, and parameters associated with each of the default commands.

6.1.1 Initialization-File Commands

Default file commands allow you to load and save initialization (.ini) files, which contain default settings for GAMBIT program variables. They include the following commands:

- `default load`—Loads an initialization file
- `default save`—Saves current default settings in an initialization file

default loadPurpose

To load an existing initialization file.

GUI Operation

Edit ... → Defaults ...

General Form

```
default load filename
```

Example

```
default load "testfile.ini"
```

Keywords

None

default savePurpose

To save current program variable default values to a file.

GUI Operation

Edit ... → Defaults ...

General Form

```
default save
```

Example

```
default save "testfile.ini"
```

Keywords

None

6.1.2 Program-Variable Commands

Overview

Default variable commands allow you to list current settings and to modify current program variable default values. They include the following commands:

- `default list`—Displays the value of one or all program variables
- `default reset`—Restores program variables to their original default values
- `default set`—Sets new default values for program variables

Command Syntax

All variable commands employ the following general form:

```
command "group.subgroup.variable"
```

where *command* represents the default variable command and *group*, *subgroup*, and *variable* are string variables, the combination of which specifies a GAMBIT program variable. For example, the command line argument to reset the mesh interval size to its original default value is as follows:

```
default reset "mesh.interval.size"
```

where

- *group*—mesh
- *subgroup*—interval
- *variable*—size

However, some program variables are not associated with a subgroup. For example, the string variables associated with the specification for coordinate system type are as follows:

- *group*—coordinates
- *subgroup*—(none)
- *variable*—type

The subgroup (none) indicates that the program variable specification does not include the *subgroup* string variable. Therefore, the correct syntax to reset the coordinate system type to its original default value is as follows.

```
default reset "coordinates..type"
```

The tables presented at the end of this subsection list GAMBIT program variable defaults by group, subgroup, and variable.

default listPurpose

To display the value of one or all default variables in the **Transcript** window. (NOTE: If you do not specify a default variable name, GAMBIT displays the values of *all* default variables.)

GUI Operation

None

General Form

```
default list [ group.subgroup.variable ]
```

Example

```
default list "turbo.p2p.double_int11"
```

Keywords

None

default resetPurpose

To reset GAMBIT program variables to their original default values.

GUI Operation

Edit ... → Defaults ...

General Form

```
default reset [ group.subgroup.variable ]
```

Example

```
default reset "geometry.vertex.color"
```

Keywords

None

default setPurpose

To specify the value of a GAMBIT default variable. (NOTE: This command can be used independently of the GAMBIT GUI, but some GUI operations employ the command to specify the values of specific default variables (see below).)

GUI Operations

Mesh → **Edge** → **Set Edge Element Type**

Mesh → **Face** → **Set Face Element Type**

Mesh → **Volume** → **Set Volume Element Type**

Edit ... → **Defaults ...**

General Form

```
default set group.subgroup.variable
  { numeric real
    string string }
```

Example

```
default set "vertex.label.prefix" string "vert."
```

Keywords

<i>Keyword</i>	<i>Description</i>
numeric	Specifies that the default setting is a numeric value
string	Specifies that the default setting is a string value

GAMBIT Program-Variable Defaults

<i>Group</i>	<i>Subgroup</i>	<i>Variable</i>
cad	parasolid_file	facet_size_grading logfile
cad	proe_direct	startup_command use_multiplier_for_facets
cad	proe_file	facet_size_grading logfile
file_io	ansys	fluid_element_type_for_brick_8 fluid_element_type_for_brick_20 fluid_element_type_for_pyra_5 fluid_element_type_for_pyra_13 fluid_element_type_for_pyra_14 fluid_element_type_for_quad_4 fluid_element_type_for_quad_8 fluid_element_type_for_quad_9 fluid_element_type_for_tetra_4 fluid_element_type_for_tetra_10 fluid_element_type_for_tria_3 fluid_element_type_for_tria_6 fluid_element_type_for_wedge_6 solid_element_type_for_brick_8 solid_element_type_for_brick_20 solid_element_type_for_pyra_5 solid_element_type_for_pyra_13 solid_element_type_for_pyra_14 solid_element_type_for_quad_4 solid_element_type_for_quad_8 solid_element_type_for_quad_9 solid_element_type_for_tetra_4 solid_element_type_for_tetra_10 solid_element_type_for_tria_3 solid_element_type_for_tria_6 solid_element_type_for_wedge_6
file_io	catia	export_language logfile
file_io	fidap	export_fidap_database fidapexec
file_io	fluent5	export_surface_mesh_only export_using_utility

<i>Group</i>	<i>Subgroup</i>	<i>Variable</i>
file_io	iges	logfile real_native_import translation_flavor
file_io	mesh	export_2d_tolerance unspecified_boundary_entity unspecified_boundary_entity_name unspecified_continuum_entity unspecified_continuum_entity_name
file_io	parasolid	logfile
file_io	step	logfile
file_io	translator	import_colors import_labels import_levels
geometry	edge	cad_color color connect_remove_degenerate_face connected_to_0_faces_color connected_to_1_face_color connected_to_2_faces_color connected_to_3_or_more_faces_color faceted_color max_num_facets num_sampling_points real_boolean_merge split_removes_upper_links virtual_color virtual_merge_min_angle virtual_num_facets

<i>Group</i>	<i>Subgroup</i>	<i>Variable</i>
geometry	face	cad_color color conformal_facets connect_remove_degenerate_volume faceted_color num_sampling_points shade_color shade_using_mesh sharp_angle_merge sharp_angle_merge_split_edge_type virtual_color virtual_face_face_split_method virtual_face_split_method virtual_point_check virtual_sense_check virtual_split_splits_volumes
geometry	general	check_level healing_report_threshold real_geometry_check_summary real_label_change_minimization verbosity virtual_check_host_lower_geometry
geometry	group	color
geometry	tolerance	edge_facet face_facet_aspect_ratio face_facet_distance_multiplier_type face_facet_mesh_size_angle face_facet_mesh_size_factor face_facet_mesh_size_grading face_facet_model_size_angle face_facet_model_size_factor face_facet_model_size_grading heal_remove_short_edge heal_remove_sliver_face shortest_edge_percent transform2d_plane_tolerance

<i>Group</i>	<i>Subgroup</i>	<i>Variable</i>
geometry	vertex	cad_color color connect_remove_short_edge connected_to_0_edges_color connected_to_1_edge_color connected_to_2_edges_color connected_to_3_or_more_edges_color faceted_color virtual_color
geometry	volume	boolean_method cad_color color complete_imprinting faceted_color split_at_cvxty_pts_in_face_stitch stitch_search_missing_faces sweep_method sweep_path_alignment virtual_color
global	database	dbcompression dbpages full_obj_check mmap_on_remote save_facets_in_db use_just_saved_db verbosity
global	editor	command name options
global	general	default_id gambitscr geometry out_of_memory_severity solver window
global	printer	command name options tmpfile
global	undo	level graphics

<i>Group</i>	<i>Subgroup</i>	<i>Variable</i>
graphics	general	add_shading_at_face_construction add_silhouettes_at_face_construction boundary_layer_color boundary_layer_visible_at_construction connectivity_based_coloring full_auto_manipulation full_image_manipulation gcp_anchoring_to_faces ignore_mesh_volume_visibility ignore_silhouettes_on_faceted_faces ignore_silhouettes_on_parametric_faces ignore_silhouettes_on_virtual_faces journal_graphics_manipulation light_window_transparency lighting min_arc_length_edge_color num_quality_intervals particle_threshold_turning_angle polygon_offset_bias reverse_pick_buttons rotate_about_tangent show_orientation_axis smooth_shading visibility_controlled_fit windows_background_color zonecolor_type
gui	debug	dump_visuals journal_gui journal_no_gui print_message_erno print_message_line_file xsynchronize
gui	general	journal_entity journal_format journal_macrorun transcript warn_empty_picker warn_save

<i>Group</i>	<i>Subgroup</i>	<i>Variable</i>
gui	sash	command_x graphic_user1_x graphic_user1_y graphic_user2_x graphic_user2_y graphic_x graphic_y layout_x layout_y
label	blayer	prefix
label	coord	prefix
label	edge	cad_prefix faceted_prefix on_at_construction prefix virtual_prefix
label	face	cad_prefix faceted_prefix on_at_construction prefix virtual_prefix
label	group	on_at_construction prefix
label	sfunction	prefix
label	vertex	cad_prefix faceted_prefix on_at_construction prefix virtual_prefix
label	volume	cad_prefix faceted_prefix on_at_construction prefix virtual_prefix

<i>Group</i>	<i>Subgroup</i>	<i>Variable</i>
mesh	blayer	adjust_edge_bl_height adjust_surface_bls angle_smooth_3d_boundary angle_smooth_factor corner_algorithm height_transit_ratio internal_continuity normal_converge_locally normal_smooth_angle normal_smooth_converged normal_smooth_iter offset_smooth_converged offset_smooth_iter process_with_links quick_n_dirty smooth_continuous_sides smooth_overlaps use_facet_evals
mesh	blayertgrid	check_quality detect_collision edge_smooth max_allowable_skew node_smooth node_smooth_angle node_smooth_converged node_smooth_iter node_smooth_max_ext node_smooth_rings offset_scale offset_weight orthogonal_layers swap_smooth_layers swap_smooth_skew
mesh	cartesian	closer_surface_approximation create_dirty_edges hexcore_cart_refine_iterations hexcore_method hexcore_offset_layers hexcore_peel_layers hexcore_quad_surface_split hexcore_smooth_relaxation stairstep_face_group stairstep_mesh_type stairstep_refine_template

<i>Group</i>	<i>Subgroup</i>	<i>Variable</i>
mesh	cooper	boundary_weighting debug enforce_source_schemes no_simple_projection_smooths preserve_projected_blayers smooth_projected_face_mesh transformation_type
mesh	edge	attempt_even_intervals color exact_mesh_evals first_ratio flexible_grading project_to_edge scheme second_ratio smooth_face softlink visibility
mesh	examine	element_2d_quality element_3d_quality element_brick element_dimension element_pyra element_quad element_quality_limit element_tetra element_triangle element_wedge quality_when_meshing range_type
mesh	face	arclength_tfi auto_smooth color exact_mesh_evals move_bl_nodes param_evals project_to_surface scheme smooth_scheme visibility

<i>Group</i>	<i>Subgroup</i>	<i>Variable</i>
mesh	flags	allow_delete_on_entities_with_meshed_ higher_topology automated_scheme debug incremental_display tgrid_verbosity
mesh	interval	count match_lower size
mesh	map	elliptic_2d_smooth face_project_improve_iter face_project_node_move face_project_smooth_iter face_project_to_surface face_spring_smooth_iter interior_node_insertion_scheme match_premeshed_edge_grading
mesh	modify	edge_split edge_split_angle new_angle_calculation
mesh	nodes	edge hex pyr quad tetra tria wedge
mesh	paver	create_own_sf size_variation_limit

<i>Group</i>	<i>Subgroup</i>	<i>Variable</i>
mesh	tetmesh	circumsphere_tolerance flat_skew init_add_interior_nodes init_perturb_problem_nodes initialization_attempts limit_size modify_boundary node_move node_tolerance pyramid_insert_angle pyramid_insert_tet pyramid_neighbor_angle pyramid_offset_distance pyramid_offset_method quad_surface_split refine_incremental refine_levels sliver_angle sliver_size
mesh	trimesh	grading lscale_method max_faces smu_iterations smu_relaxation
mesh	vertex	color max_corner_dangle max_end_dangle max_side_dangle
mesh	volume	arclength_tfi auto_smooth color scheme smooth_scheme use_3d_boundary_layers visibility
tools	cleanup	edge_merge_min_angle face_merge_min_angle mesh_visible sharp_angle_chop_percentage undo_group

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