Desired qualities for applicants to computer science graduate programs

Over the years, various students have asked me to recommend them for graduate school in computer science or related fields. A graduate school recommendation form asks the professor to include a letter of recommendation, as well as to rate the candidate according to various traits.

Which traits do grad schools ask about? Based on the forms from 30 graduate programs, here is a frequency distribution. Based on it, consider how would you summarize the most important qualities of a successful graduate student. To simplify the analysis, this table has been condensed from a list of 48 different traits identified on the various forms.

Criterion	how many
Academic performance	4
Adaptability, growth	2
Communication (oral, written)	20
Creativity, originality, imagination, innovative talent	10
Effort, time management	5
Initiative	7
Integrity, ethics	6
Intellectual ability, potential, depth; academic ability	18
Knowledge	6
Laboratory, technology skills	3
Leadership potential	4
Logical, analytical, problem-solving ability	9
Math, science ability	3
Maturity, perseverance	12
Motivation, drive	15
Potential for success	12
Research potential	8
Self confidence	7
Self reliance, independence, planning, organization	6
Teaching potential	8
Teamwork, working with others, interpersonal skills	13