.1   *Programming

Class here application frameworks, application programming, computer algorithms, integrated development environments, software engineering

Class algorithms discussed solely from a theoretical perspective, without regard to computer implementation, in 518.1. Class a specific application of programming within computer science with the application in 005.4–005.8 or 006, e.g., evolutionary programming 006.3823, programming of computer graphics 006.66

For programming for specific types of computers, for specific operating systems, for specific user interfaces, see 005.2

See Manual at 005.1–005.2 vs. 005.42; also at 005.1 vs. 005.3

.12   †*Software systems analysis and design

Standard subdivisions are added for either or both topics in heading

Class here functional requirements, requirements analysis

.13   †*Programming languages

Including application generators, nonprocedural (declarative) languages, text editors specially designed to assist in coding programs

Class here coding of programs

Class comprehensive works on text editors in 005.52

For programming languages devoted to a specific task, see the task, e.g., relational database programming languages 005.756

See also 005.434 for job control languages

.268   Programming for specific operating systems

Writing programs that run on specific operating systems

Arrange alphabetically by name of operating system, e.g., Linux®

Class programming for a specific operating system where the operating system is the only operating system that runs on a specific computer in 005.265

See Manual at 005.268 vs. 005.265, 005.269

.438   Specific user interfaces

Not limited by type of computer

Arrange alphabetically by name of user interface, e.g., Motif®

.453   *Compilers

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*Use notation 019 from Table 1 as modified at 004.019

†Do not use notation 01 from Table 1 for general discussion of logic in programming; see Manual at 005.101

.56   *Information filtering systems

> Including recommender systems

> Class here interdisciplinary works on information filtering systems

>> *For information science aspects of information filtering systems, see 025.04*

.7   *Data in computer systems

> Class here high-volume data sets

>> *For data security, see 005.8*

>> *See Manual at 005.1 vs. 005.3*

.741   *File organization and access methods

> Standard subdivisions are added for either or both topics in heading

> Including hashing, merging, search algorithms, search trees, sort algorithms, sorting; comprehensive works on query languages

> Class interdisciplinary works on query languages in 025.04

>> *For query languages for a specific database model, see the model , e.g., relational database query languages 005.756*

> Data file formats relocated to 005.72

.758   *Distributed data files and databases

> Class here data files and databases used in client/server computing; key-value stores

>> *See also 004.36 for distributed processing*

.8   *Data security

> Including digital rights management, electronic signatures

> Class here access control, computer network security, firewalls; interdisciplinary works on computer security

> Class electronic signatures involving encryption in 005.82

>> *For a specific aspect of computer security, see the aspect, e.g., management of computer security 658.478*

.84   *Malware

> Including computer viruses, spyware, Trojan horses, worms

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*Use notation 019 from Table 1 as modified at 004.019