1. Which command is used to invoke the GCC compiler?
   1. gcc
   2. cc
   3. **both a) and b)**
   4. gpp
2. What does GCC stand for?
   1. **GNU Compiler Collection**
   2. General Compiler Control
   3. Global Compiler Command
   4. Graphical Code Checker
3. Which gcc option undefines a preprocessor macro?
   1. **-U**
   2. -u
   3. -undefine
   4. none of the mentioned
4. The command line options of gcc can also be read from a file with
   1. @
   2. $
   3. **#**
   4. none of the mentioned
5. The correct sequence of GCC compilation process is
6. **preprocessing -> compilation -> assemble -> linking**
7. assemble -> preprocessing -> compilation -> linking
8. preprocessing -> assemble -> compilation -> linking
9. none of the mentioned
10. The preprocessor removes the \_\_\_\_\_\_\_ from the source code.
    1. **comments**
    2. header files
    3. both comments and header files
    4. none of the mentioned
11. The compiler converts
    1. assembly code into machine code
    2. **preprocessed source code into assembly code**
    3. machine code into assembly code
    4. none of the mentioned
12. The assembly code is converted into the machine code by
    1. compiler
    2. **assembler**
    3. linker
    4. none of the mentioned
13. The object file contains the
    1. assembly code
    2. **machine code**
    3. modified source code
    4. none of the mentioned
14. If we do not specify the executable file name at the compilation time in GCC, then in linux the compiler creates executable named as
    1. **a.out**
    2. a.exe
    3. x.out
    4. x.exe
15. The preprocessor creates the file with extension
    1. .a
    2. **.i**
    3. .s
    4. .o
16. Which flag is used to enable all warnings in GCC?
    1. -w
    2. **-Wall**
    3. -warn
    4. -Werror
17. What does the -Werror flag do in GCC?
    1. **Ignores warnings and treats them as errors**
    2. Enables additional warnings
    3. Disables all warnings
    4. Enables optimizations
18. Which flag is used to enable specific warning categories in GCC?
    1. **-W**
    2. -warning
    3. -Wextra
    4. -Wcategory
19. Which flag is used to suppress warnings in GCC?
    1. -nowarn
    2. -Wsuppress
    3. **-Wno-**
    4. -Wdisable
20. Which option is used to optimize code for size in GCC?
    1. **-Os**
    2. -Osize
    3. -O3
    4. -Oz
21. Which optimization level enables all optimizations in GCC?
    1. -O0
    2. -O1
    3. -O2
    4. **-O3**
22. Which flag is used to perform aggressive loop optimizations in GCC?
    1. **-funroll-loops**
    2. -floop-optimizations
    3. -floop-unroll
    4. -floop-aggressive
23. Which flag is used to enable link-time optimization in GCC?
    1. **-flto**
    2. -ltoptimize
    3. -flink-opt
    4. -linktime
24. Which flag is used to enable static analysis in GCC?
    1. -fstatic-analysis
    2. **-fanalyzer**
    3. -fstatic-analyze
    4. -fanalyze
25. Which tool is used for static analysis in GCC?
    1. ScanBuild
    2. **Clang**
    3. Valgrind
    4. cppcheck
26. Which flag is used to enable a specific warning in GCC?
    1. -Wenable
    2. -Wwarning
    3. -Wextra
    4. **-W<specific-warning>**
27. Which flag is used to display optimization options used by GCC?
    1. -fshow-optimization
    2. -foptimize
    3. **-fdump-optimization**
    4. -fdisplay-optimization
28. Which flag is used to specify the architecture for code generation in GCC?
    1. -arch
    2. -target
    3. **-march**
    4. -generate
29. Which flag is used to enable debugging information in GCC?
    1. **-g**
    2. -debug
    3. -dinfo
    4. -dbg
30. Which flag is used to enable aggressive function inlining in GCC?
    1. -finline
    2. **-finline-functions**
    3. -finline-aggressive
    4. -faggressive-inline
31. Which flag is used to enable strict aliasing optimizations in GCC?
    1. **-fstrict-aliasing**
    2. -falias
    3. -fstrict
    4. -foptimize-aliasing
32. Which flag is used to enable vectorization in GCC?
    1. -fvectorize
    2. -fvectorization
    3. -fvector
    4. **-ftree-vectorize**
33. Which flag is used to enable whole-program optimization in GCC?
    1. -fwhole-program
    2. -fwhole
    3. **-flto**
    4. -flink-time
34. Which flag is used to disable all optimizations in GCC?
    1. **-O0**
    2. -Odisable
    3. -Onone
    4. -Ooff
35. Which flag is used to enable profile-guided optimizations in GCC?
    1. -fprofile-optimize
    2. -fpgopt
    3. -fprofile-guided
    4. **-fprofile-use**
36. Which flag is used to enable strict checking of printf and scanf format strings in GCC?
    1. -Wformat
    2. -Wformat-check
    3. -Wformat-string
    4. **-Wformat-security**
37. Which flag is used to enable automatic parallelization in GCC?
    1. -fparallelize
    2. **-fopenmp**
    3. -fthreads
    4. -fpthread
38. Which flag is used to enable stack protection in GCC?
    1. **-fstack-protector**
    2. -fstack-guard
    3. -fstack-security
    4. -fprotect-stack
39. Which flag is used to optimize for the target processor in GCC?
    1. -march
    2. **-mtune**
    3. -mcpu
    4. -moptimize
40. Which flag is used to enable strict floating-point optimizations in GCC?
    1. **-fstrict-fp**
    2. -ffloat-strict
    3. -ffp-strict
    4. -ffloat-optimize
41. Which flag is used to enable strict type-checking in GCC?
    1. -fstrict-type
    2. -ftype-check
    3. -fcheck-type
    4. **-Wstrict-type-checking**
42. Which flag is used to enable tail call optimization in GCC?
    1. -ftail-call
    2. -foptimize-tail
    3. -Otail
    4. **-foptimize-sibling-calls**
43. Which tool is commonly used to analyze memory leaks in C programs?
    1. **Valgrind**
    2. GDB
    3. DDD
    4. Splint
44. Which flag is used to enable the AddressSanitizer (ASan) in GCC?
    1. **-fsanitize=address**
    2. -fsanitize=asan
    3. -fsanitize=memcheck
    4. -fsanitize=leak
45. Which flag is used to enable the ThreadSanitizer (TSan) in GCC?
    1. **-fsanitize=thread**
    2. -fsanitize=tsan
    3. -fsanitize=sync
    4. -fsanitize=concurrency
46. Which flag is used to enable the UndefinedBehaviorSanitizer (UBSan) in GCC?
    1. **-fsanitize=undefined**
    2. -fsanitize=ubsan
    3. -fsanitize=unsafe
    4. -fsanitize=badbehavior
47. Which flag is used to enable the MemorySanitizer (MSan) in GCC?
    1. -fsanitize=memory
    2. **-fsanitize=msan**
    3. -fsanitize=memcheck
    4. -fsanitize=leakcheck
48. Which flag is used to enable the ControlFlowIntegrity (CFI) in GCC?
    1. **-fsanitize=cfi**
    2. -fsanitize=control-flow
    3. -fsanitize=security
    4. -fsanitize=integrity
49. Which tool is commonly used for dynamic code analysis in C programs?
    1. **Valgrind**
    2. GDB
    3. Splint
    4. Clang
50. Which flag is used to enable the use of hardware performance counters for profiling in GCC?
    1. -fprofile-generate
    2. -finstrument-functions
    3. -pg
    4. **-fperf-profile**
51. Which flag is used to disable optimizations that depend on the assumption that signed overflow does not occur in GCC?
    1. **-fno-strict-overflow**
    2. -fdisable-overflow
    3. -fno-overflow
    4. -fno-assume-overflow
52. Which flag is used to enable the Global Offset Table (GOT) optimization in GCC?
    1. -fno-got
    2. -fgot
    3. **-fno-plt**
    4. -fplt
53. Which flag is used to enable interprocedural optimization (IPO) in GCC?
    1. -finterproc-opt
    2. -fipo
    3. **-flto**
    4. -fmerge-functions
54. Which flag is used to enable DataFlowSanitizer (DFSan) in GCC?
    1. **-fsanitize=dataflow**
    2. -fsanitize=dfs
    3. -fsanitize=memory
    4. -fsanitize=analyze
55. Which flag is used to enable instruction set-specific optimizations in GCC?
    1. **-march**
    2. -mtune
    3. -minstructions
    4. -moptimize
56. Which flag is used to enable strict floating-point conformance in GCC?
    1. -frounding-conform
    2. **-ffp-conform**
    3. -fconform-fp
    4. -fconform
57. Which flag is used to enable stack smashing protection in GCC?
    1. -fstack-smash
    2. **-fstack-protector**
    3. -fprotect-stack
    4. -fstack-protect
58. Which flag is used to enable profile-guided branch prediction optimizations in GCC?
    1. **-fpredict-branch**
    2. -fbp-optimize
    3. -fbranch-probabilities
    4. -fprofile-use
59. Which flag is used to enable the ThreadSanitizer (TSan) in GCC?
    1. -fsanitize=thread
    2. **-fsanitize=tsan**
    3. -fsanitize=sync
    4. -fsanitize=concurrency
60. Which flag is used to enable loop unrolling in GCC?
    1. **-funroll-loops**
    2. -floop-unroll
    3. -floop-optimize
    4. -floop-unroll-all
61. Which flag is used to enable stack-clash protection in GCC?
    1. -fstack-clash
    2. -fprotect-stack
    3. **-fstack-protector-strong**
    4. -fstack-check
62. Which flag is used to enable DataFlowSanitizer (DFSan) in GCC?
    1. **-fsanitize=dataflow**
    2. -fsanitize=dfs
    3. -fsanitize=memory
    4. -fsanitize=analyze