CS2304-SYSTEM SOFTWARE

2 MARK QUESTION & ANSWERS.

UNIT IV -MACROPROCESSOR

1. Define macro.

    A macro represents a group of statements in a source language , for performing some function macro can be defined

Macro name	macro	parameters

    This pattern is called macro prototype.

2. What is macro Expansion?

    A macro would be called within a main program, using macro invocation statement or macro call. Then the macro processor replaces this macro with the corresponding group of source language statements. This is called macro expansion.

3. How can you define a macro?

    A macro can be defined using macro prototype and its statements. For eg

    macro name   macro   parameter

    …………..

           Macro statements   macro body

    ……….

               mend

    Here macro and mend are directly used to identify the beginning and end of the macro.

4. What are all the Data structures used in macro?

    - DEF TAB
    - NAM TAB
    - ARG TAB

    DEFTAB: contains the macro prototype and the statements that make the macro body.

    NAMTAB: contains the macro name and it serves as a index to DEFTAB.

    ARGTAB: This is used to store the arguments according to their position.

5. Write about concatenation of macro parameter?

Most macro processor allows parameter to be concatenated with other character string. For Eg. The macro parameter named &ID means, the body of the macro definition might be   LDA X&ID1.

Here X and 1are strings. A is an arguments. This 'A' would be concatenated like LDA XA1 during expansion.

6. What is the need for generating unique labels?

The body of the macro contains no labels. If label present within a macro, and that macro called 2 times means this would result a duplicate label definition when a program is assembled. So, many macroprocessor avoid these problems by allowing the creation of special types of labels within macro instruction.

7. Write about macro time variable? (set symbol)

A variable which presents only within a macro is called macro time variable. Which is used to store working values during the macro expansion. Any symbol that begins with the character '&' and that is not a macro instruction parameter is assumed to be a macro time variable.

Eg. &EOR

8. Write different types of parameters.

Positional parameter

Keyword parameter

9. What is positional parameter?

The parameter from macro prototype and arguments from the macro call are associated with each other according to their positions. This is called positional parameter. In positional parameter the programmer must be careful to specify the arguments in the proper order.

Eg. GENER , , , DIR , , , 3 , ,

10. Write about keyword parameter?

In the macro prototype, each parameter name is followed by an equal sign which identifies a keyword parameter. After the equal sign , a default value is specified for some of the parameters. The parameter is assumed to have this default value if its name does not appear in the macro invocation statement. For Eg.

GENER TYPE = DIRECT, CHAN = 3

11. Write about general purpose macro processor?

General purpose macro processor are not dependent on any particular programming language but can be used with a variety of different language

12. Write the advantage and disadvantages of general purpose macro processor?

Advantage:

1) The programmer does not need to learn about a different macro facility for each complier or assembly language.

2) Cost is high when compared to a special purpose macro processor, but this expense does not need to be repeated for each language.

Disadvantage:

1) Difference between the programming languages should be identified for Eg. Comment statements.

2) The syntax used for macro definitions and macro invocations are differed I each language.

13. Write about Integrated macro processor?

It is possible to have closer cooperation between the macro processor and the assembler or compiler is called integrated macro processor. Here the information about the source program is extractedby the language translator.

14. Write the Disadvantages of macro processor within a language translator?

1) That must be specially designed and written to work with a particular implementation.

2) The cost is high

3) Integrated macro processor consumes more time.

15. Explain the term conditional assembly?

Conditional assembly means writing conditional statements within a macro definition which is called Conditional macro expansion. These statements are processed and not appeared during the macro expansion.

16. Write about DEFTAB?

DEFTAB (Definition Table) is the main data structures involve in macro processor. It contains the macro prototype and the statements that make up the macro body with a few modifications.

17. Write about NAMTAB?

    NAMTAB is the major data structures of macro processor, which contains macro name and it serves as an index to DEFTAB

18. Write about NAMTAB?

    The ARGTAB is used during the expansion of macro invocation. When macro invocation statement is recognized the argument are stored in ARGTAB according to their position in the argument list.

19. Write the advantages of line-by-line macro processor?

    1) It avoids making an extra pass over the source program.

    2) Some of the data structures required by the macro processor and language translator can be combined.

UNIT V -SYSTEM SOFTWARE TOOLS

1) Write about an Interactive Editor?

   An Interactive Editor is a computer program that allows a user to create and revise a target document. The term document includes objects such as computer programs, text, equations, tables, diagrams, line art, and photographs.

2) What are all the operations performed in document Editing process?

   The document editing process is an Interactive user computer dialogue designed to accomplish four tasks.

   1) Select the part of the target document to be viewed and manipulated.
   2) Determine how to format this view online and how to display it.
   3) Specify and execute operations that modify the target document.
   4) Update the view appropriately.

3) Write the various types of Editor?
   - Line Editor.
   - Stream Editor
   - Screen Editor
   - Word Editor
   - Structure Editor

4) Write the uses of Input devices?

   Input devices are used to enter elements of the text being edited, to enter commands and to designate editable elements. These can be divided into three categories

   - Text devices
   - Button devices
   - Locator devices

5) Write about Locator devices?

   Locator devices are 2 dimensional analog to digital converters that position a cursor on the screen by observing the user's movement of the device.

   Eg. Mouse, Data tablet.

6) Write about output devices?

Output devices are used for editing process. This lets the user view the elements being edited and the results of the editing operations. The advanced CRT terminals are used for such features as moving characters and lines and scrolling lines and pages.

7) Write the functions of command language process?

The command language processor accepts input from the user's input device, and analyzes the token and syntactic structure of the commands. This may invoke semantic routines perform functions such as editing and viewing.

8) Write the operations involved in semantic routines?
- Traveling
- Editing
- Viewing
- Displaying

9) Define Gaits?

Program execution is suspended when some conditions becomes true. There are some good graphical representation of program process that may be useful to run program at various speed , called Gaits.

10) Write the uses of editor data structures?

The editor data structure is used to allow addition, deletion and modification with a minimum of I/O and character moment.

11) What is execution sequencing?

Execution sequencing is the observation and control of the flow of program execution.

12) Write the functions used in debugging systems?
- Tracing
- Trace back

13) Write about tracing function?

Tracing can be used to track the flow of execution logic and data modification. The control flow can be traced at different levels of detail, procedure, and branch, individual and so on.

14) Write about Trace back Function?

Trace back can show the path by which the current statement was reached. It can also show which statements have modified a given variable or parameter.

15) How the translators can interact with Debugger?

There are 2 ways

1) The language translators to produce the needed information in a standard external form for the debugger regardless of the internal form used in the translator.

2) For the language translator to provide debugger interface modules that can respond to requests for information in a standard way regardless of the language being debugger.

16) What is the problem of debugger when optimization is used?

The optimization creates problem for the debugger. The user of a debugging system deals with the source program in its original form, before optimizations are performed. Here the code arrangement alters the execution sequence and may affect tracing break points and even statement counts if entire statements are involved. If an error occurs it may be difficult to relate the error to the location in the original source program.

17) Write about optimization?

Optimization involves the rearrangement of segments of code the program. For Eg. Invariant expressions can be removed from loops.

18) Write about line Editor?

These editors allowed operations on numbered sequence of 80 characters, either within a single line or on an integral number of lines.

19) Write about Screen Editor?

Screen editor define a world in which a document is represented as a plane of test lines unbounded both down and to the right. This manipulates boundaries without regard to line boundaries.

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