Green University of Bangladesh

Department of Computer Science and Engineering (CSE)

Faculty of Sciences and Engineering

Semester: (Fall, Year:2021), B.Sc. in CSE (Day)

LAB PROJECT PROPOSAL

Course Title:STRUCTURE PROGRAMMING LAB

Course Code: CSE 104 Section:DA

Student Details

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Lab Date : 21/02/2022

Submission Date :21/02/2022

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Project Proposal Status

Marks: …… Signature: .....

Comments: ..... Date: .....

1. **TITLE OF THE PROJECT PROPOSAL**
   BASIC C PROGRAMMING
2. **PROBLEM DOMAIN & MOTIVATIONS**
   C is an imperative procedural language. It was designed to be compiled to provide low-level access to memory and language constructs that map efficiently to machine instructions, all with minimal runtime support. Despite its low-level capabilities, the language was designed to encourage cross-platform programming. A standards-compliant C program written with portability in mind can be compiled for a wide variety of computer platforms and operating systems with few changes to its source code.[9]

   Since 2000, C has consistently ranked among the top two languages in the TIOBE index, a measure of the popularity of programming languages
   The best way we learn anything is by practice and exercise questions. We have started this section for those (beginner to intermediate) who are familiar with C programming.

3. **OBJECTIVES/AIMS**
   It is an efficient programming language

   The structure simplifies testing and debugging

   It will be easier to learn other programming languages

   Most programming languages can interface with it

4. **TOOLS AND TECHNOLOGIES**

   A number of tools have been developed to help C programmers find and fix statements with undefined behavior or possibly erroneous expressions, with greater rigor than that provided by the compiler. The tool lint was the first such, leading to many others.

   Automated source code checking and auditing are beneficial in any language, and for C many such tools exist, such as Lint. A common practice is to use Lint to detect questionable code when a program is first written. Once a program passes Lint, it is then compiled using the C compiler. Also, many compilers can optionally warn about

syntactically valid constructs that are likely to actually be errors. MISRA C is a proprietary set of guidelines to avoid such questionable code, developed for embedded systems.[36]

There are also compilers, libraries, and operating system level mechanisms for performing actions that are not a standard part of C, such as bounds checking for arrays, detection of buffer overflow, serialization, dynamic memory tracking, and automatic garbage collection.

Tools such as Purify or Valgrind and linking with libraries containing special versions of the memory allocation functions can help uncover runtime errors in memory usage.

5. CONCLUSION

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In this article, we'll explain what C programming is, list ways that you can use it, detail just a few of the many benefits that can be gained from learning this foundational programming language, and provide a simple explanation of how C works.