DATE: 27-07-2024



# COMPETITIVE PROGRAMMING CLUB

## Problem Solving Using C++

INFORMATION AND COMMUNICATION TECHNOLOGY

FACULTY OF TECHNOLOGY MARWADI UNIVERSITY, RAJKOT



#### 1. Introduction:

The event "**Problem Solving Using C++**", held at the Marwadi University - ICT Department The event held on 27th July 2024, was organized to strengthen participants' understanding of C++ basics and enhance problem-solving skills using platforms like LeetCode and HackerRank. It aimed to address programming proficiency gaps, fostering logical thinking and coding acumen.

#### 2. Event Overview:

The event took place in multiple labs MA115 and MA112 accommodating 60 participants. Through a structured approach, participants engaged with foundational C++ concepts, progressing to tackling problems on LeetCode and HackerRank. The emphasis was on practical learning and applying theoretical knowledge to real-world scenarios.

- 1) Introduction to CP Club.
- 2) Explaining foundational C++ concepts.
- 3) Hands on Solving problems on LeetCode and Hackerrank.
- 4) Relating it with real life scenarios.
- 5) Session conclusion

## 3. PO mapping and Justification:

- PO1(Engineering Knowledge)
- Justification: Participants apply fundamental programming concepts, data structures, and algorithms to solve complex computational problems using C++.
- PO2 (Problem Analysis)
- Justification: The event challenges students to analyze given problems, identify constraints, and formulate efficient logic for optimal solutions.
- PO3 (Design/Development of Solutions)
- Justification: Competitors design and implement well-structured, optimized C++ programs that address real-world or competitive programming scenarios.
- PO9 (Individual and Team Work)
- **Justification:** The event may include both individual coding tasks and team-based problem-solving rounds, fostering teamwork, leadership, and collaboration.
- PO10 (Communication)
- Justification: Participants must articulate their approach, explain logic, and document their solutions effectively, enhancing their technical communication skills.

#### • PO12 (Life-long Learning)

• Justification: Exposure to diverse problem statements and coding techniques encourages participants to continuously learn, adapt, and improve their programming skills.

## 4. PSO mapping and Justification:

#### • Mapped with PSO1:

• Justification: The event enables participants to develop problem-solving abilities relevant to industries such as software development, embedded systems, IoT, and communication technologies.

#### • Mapped with PSO2:

• Justification: By solving algorithmic challenges in C++, students gain expertise applicable to domains like cloud computing, DevOps, AI, machine learning, cybersecurity, and big data analytics.

## 5. Attendance and Participants:

The event attracted 60 participants, showcasing significant interest in competitive programming and C++ basics. Participants hailed from diverse backgrounds, reflecting the growing enthusiasm for coding and problem-solving in educational communities.

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118613	92200133014	HENCY HITESHBHAI DEPANI
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123095	92301733067	MANAV DHARMESH MANDALIA
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122354	92301733042	ANSH VIPUL RAYTHATHA
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123134	92301733058	DEVENDRASINH DOLATSINH JADEJA
122265	92301733040	MAYUR DILIPBHAI KHANDLA
121771	92301733029	BHARGAV MAHESHBHAI LIMBANI
122416	92301733044	JENISH PINTUBHAI KHAKHKHAR
122642	92301733052	SAURABH K BHUPTANI
122820	92301733057	PAYAL MAKWANA
122710	92301733053	ROHAN PRAVINBHAI MAKWANA
120891	92301733021	YASH JAYESHBHAI VEKARIYA
122405	92301733043	BHAVIN PANKAJBHAI MUCHHALA
121782	92301733031	DHYANA KOTHARI
123073	92301733066	KAVYA CHIRAGBHAI THAKAR
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121063	92301733025	MIHIR MALIKALI MITHANI
119732	92200133043	PRIYANSHI HIREN MADANI
121144	92301733026	GEORGE THOMAS
121249	92301733036	NIKI MAJITHIYA
117715	92200133008	ISHIKA KIRIT SHETH
120945	92301733024	ISHA DEVENDRABHAI SAVALIYA
122473	92301733047	RAJ TULSHIBHAI TALA
120713	92301733008	YURICA SILVANA DE ASSIS CAETANO
122806	92301733068	EPARI SAI PRASHANTH
119699	92200133037	NANDINI JAYESH LASHKARI
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120865	92301733020	ARMANDO NELVIO MOIANE
123014	92301733060	KRUSHANG KAMLESHBHAI SAVALIYA
123160	92301733069	HARSHIL MANSUKHBHAI DOMADIYA
123024	92301733061	KIRTI ANILBHAI SHINGALA
120815	92301733016	ASHUTOSH KUMAR SINGH
121725	92301733028	DISHA PARESHBHAI VADOLIYA
121772	92301733030	MEET VIJAYBHAI LIMBANI
120704	92301733006	ZEENAT ABDULCADRE ABUCHIR DOSSO
119144	92200133016	MALHARKRISHNA SAHILKRISHNA SHAH
120706	92301733007	DENISA LIDIA DIONISIO RECAMA
119394	92200133021	VIDYA BHARTI SINHA
122195	92301733038	DIVY SHANTILAL DEDANIYA
122779	92301733056	BUGGITTINA SHIVA KUMAR
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#### 6. Achievements and Outcomes:

The event achieved several key outcomes:

- 1) Participants gained a better grasp of C++ fundamentals.
- 2) Hands-on experience with competitive programming platforms like LeetCode and HackerRank boosted problem-solving confidence.
- 4) Interactive sessions encouraged collaborative learning and sharing of approaches.
- 5) The event laid a foundation for further exploration and specialization in programming domains.

#### 7. Feedback and Evaluation:

The event received positive feedback for its engaging content and well-organized sessions. The blend of theoretical and practical components resonated with participants, enhancing both their knowledge and interest in programming. The use of established platforms for problem-solving was particularly appreciated for its relevance and challenge.

### 8. Challenges:

While the event was successful, we did face a few challenges along the way. Having a limited timeframe for planning and executing an event can put a strain on the entire process the collective effort of all the team members.

#### 9. Conclusion:

The "Problem Solving Using C++" event was a resounding success, fulfilling its goals of nurturing programming skills and promoting competitive programming culture. Despite the challenges, the enthusiasm and participation highlighted its impact, setting a strong precedent for future endeavors in this domain.

#### 10.Attachments:





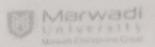
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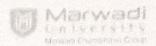
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