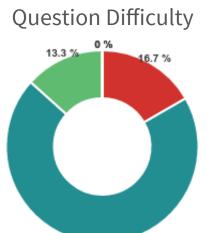
AMCAT COMPUTER PROGRAMMING TEST 2 Report!

63 users have taken the test till now.

26/30
Highest Marks
0.0/30
Lowest Marks
8.96/30
Avg. Marks
15 m 45.1 s
Avg. Time Spent
37.74%

Avg. Accuracy



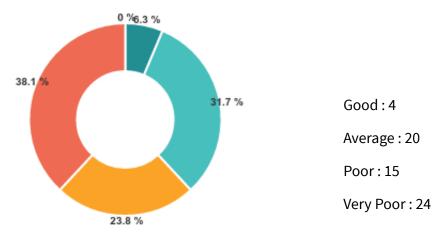
Very Tough: 5

Tough: 21

Average: 4

The difficulty level of a question is calculated dynamically based on the performance of the students. Ex: The very tough questions are the ones that less than 20% of the students solved correctly.

Student Performance



Student performance is calculated based on the marks that students obtained.

> 90 : Excellent >70 to <= 90 : Good > 40 to <= 70 : Average > 20 to <= 40 : Poor 0-20 : Very Poor

✓ Score Comparision

Topper's Score			26
Average Score	Overall	Computer Programming	8.96

Accuracy Comparision

Topper's Accuracy	86.67 %
Average Accuracy	37.74 %

② Time Comparision

Topper's Time	17 m 36 s
Average Time	15 m 45.1 s





Manju malik (/namratamalik1994/)

Rank: 1 Score: 26/30



kiran pamarthi (/pamarthikiran56/)

Rank: 2 Score: 24/30



Ritam Singha (/ritamraiganj/)

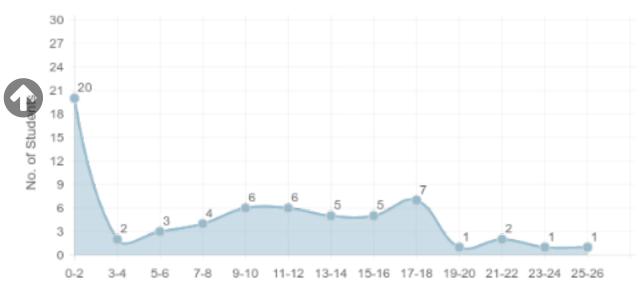
Rank: 3 Score: 22/30



Ritam Singha (/babai141992/)

Rank: 4 Score: 21/30

Marks vs No. of Students

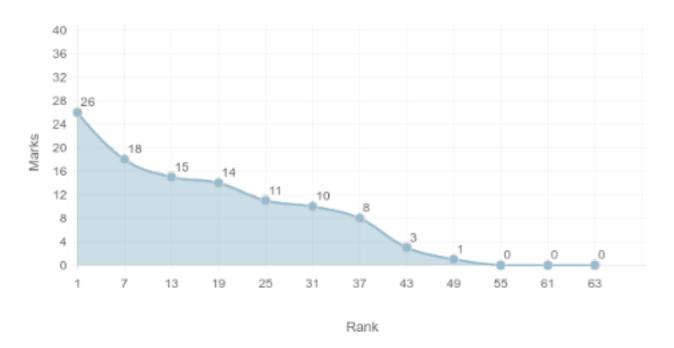


Marks

This graph shows where the majority of the students stand. The Peak of the graph signifies the marks that most of the test takers obtained. The arrow indicates where you stand.

Note: Your goal is to be as far to the right as possible, that is where all the toppers are.

Rank v/s Marks



This graph shows the marks distribution among the test takers. The leftmost point on the graph shows the topper's marks while the rightmost point belongs to the person who stood last. The arrow indicates where you stand.

Note: Your goal is to be as far to the left as possible.

Student Wise Report

Question Wise Report

All | Tricky Qs | Very Tough Qs | Tough Qs | Average Qs | Easy Qs | Very Easy Qs

Question 1 of 30

Himanshu wants to write a program to print the larger of the two inputted number. He writes the following code:

```
int number1, number 2
input number1, number 2
if ("??") // Statement 1
print number1
else
print number2
end if
```

Fill in the ?? in statement 1.

- **♦ A.** number1>number2
 - **B.** number2>number1
 - C. number2 equals number1
 - **D.** number1 <= number2

Explanation:

No explanation provided

Question 2 of 30

Shalini wants to program to print the largest number out of three inputted numbers. She writes the following program:

```
int number1, number 2, number3, temp;
input number1, number2, number3;
if (number1>number2)
temp = number1
else
   temp = number2
end if
if (??) // Statement 1
   temp = number3
end if
print temp
```

Fill in the ?? in Statement 1.

- **A.** number3 > number2
- **❷ B.** number3 > temp
 - **C.** number3 < temp
 - **D.** number3 > number1

Explanation:

No explanation provided

Question Analytics

39 USERS ()	28 USERS ()	11 USERS ()	71.79 %
ATTEMPTED	SOLVED CORRECTLY	SOLVED INCORRECTLY	• ACCURACY
27.21 SECS	3.9 SECS	5	
② AVG. SOLVING	TIME	ING TIME	

Question 3 of 30

Rohit writes the following program which inputs a number and prints "Double digit" if the number is composed of two digits and "Not a double digit" if it is not.

```
int number;
if (number>10 AND number < 100)
  print "Double digit"
else
  print "Not a double digit"
end if</pre>
```

Rohit tries the following inputs: 5 and 66. The program works fine. He asks his brother Ravi to try the program. When Ravi enters a number, the program doesn't work correctly. What did Ravi enter?

- **A.** 8
- **B.** 100
- **C.** 99
- **D.** 10

Explanation:

No explanation provided

Question Analytics

42 USERS ()	21 USERS ()	21 USERS ()	50.0 %
ATTEMPTED	SOLVED CORRECTLY	SOLVED INCORRECTLY	⊙ ACCURACY
1 M 14.22 S	2.1 SECS		
② AVG. SOLVING	TIME	NG TIME	

Question 4 of 30

Rohan writes the following program which inputs a number and prints "Triple digit" if the number is composed of three digits and "Not triple digit" if it is not.

```
int number;
if (number>99)
  print "Triple digit"
else
  print "Not triple digit"
end if
```

Rohan tries the following inputs: 25 and 566. The program works fine. He asks his brother Ravi to try the program. When Ravi enters a number, the program doesn't work correctly. What did Ravi enter?

- **A.** 99
- **B.** 100



♥ D. 1000

Explanation:

No explanation provided

Question Analytics

43 USERS ()	19 USERS ()	24 USERS ()	44.19 %
ATTEMPTED	SOLVED CORRECTLY	SOLVED INCORRECTLY	• ACCURACY
33.5 SECS	4.7 SECS		
② AVG. SOLVING	TIME X FASTEST SOLV	ING TIME	

Question 5 of 30

Abhinav wants to find the largest number in a given list of 20 numbers. Which of the following is an efficient approach to do this?

- **A.** Use bubble sort to sort the list in descending order and then print the first number of the series.
- **B.** Use selection sort to sort the list in descending order and then print the first number of
- ◆ C. Implement one iteration of selection sort for descending order and print the first number in the series.
 - **D.** None of these the series.

Explanation:

No explanation provided

Question Analytics



Question 6 of 30

Lavanya wants to find the smallest number out of 26 inputted numbers. How many minimum comparisons he has to make?

⊘ A. 25

- **B.** 13
- **C.** 26
- **D.** 52

Explanation:

No explanation provided

Question Analytics

② AVG. SOLVING TIME ☐ FASTEST SOLVING TIME

Question 7 of 30

A company offers commission for selling it products to its salesperson. The commission rate is Rs. 5 per product. However if the salesperson sells more than 200 items, he gets a commission of Rs. 10 on all items he sold after the first 200. Kanu writes a program to calculate the commission for the salesperson:

```
integer numberProducts, commission
input numberProducts
if (numberProducts > 200 )
   MISSING STATEMENT
else
   commission = numberProducts * 5
end if
   print commission
```

Fill in the missing statement.

- **A.** commission = (numberProducts 200) * 10
- **❷ B.** commission = 200 * 5 + (numberProducts 200) * 10
 - C. commission = numberProducts * 10
 - **D.** None of these

Explanation:

No explanation provided

Question Analytics

38 USERS () 25 USERS () 13 USERS () 65.79 %

ATTEMPTED SOLVED CORRECTLY SOLVED INCORRECTLY ACCURACY

29.98 SECS

2.6 SECS

② AVG. SOLVING TIME

☐ FASTEST SOLVING TIME

Question 8 of 30

Vikram wants to write a program which checks whether the inputted number is divisible by any of the first 6 natural numbers (excluding 1). He writes the following efficient code for it.

```
int number, n = 2, isdivisible=0
input number
while ( n <=6) // Statement 1
{
   if ( remainder (number, n) == 0)
      isdivisible = 1
   end
   n = n+1 // Statement 2
}
if (isdivisible equals 1)
   print "It is divisible"
else
   print "It is not divisible"
end</pre>
```

Vikram takes the program to Hari. Hari tells Vikram that though the code is correct, it can be made more efficient. Hari modifies a single statement and makes the code more efficient. Which statement does he modify and how?

⊘ A. Statement 1 is changed to:

```
while (n <=6 AND isdivisible=0)
```

B. Statement 1 is changed to:

```
while (n <=6 OR isdivisible=0 )
```

C. Statement 1 is changed to:

```
while (isdivisible=0)
```

D. Statement 2 is changed to:

```
n = n + 2
```

Explanation:

No explanation provided

Question 9 of 30

Rajiv wants to make a program which inputs two numbers: a and b (a>b) and computes the number of terms between a and b (including a and b). What will be code statement to do this:

- **A.** a-b
- **♡** B. a-b+1
 - **C.** a + b
 - **D.** a-b-1

Explanation:

No explanation provided

Question Analytics

Question 10 of 30

I have a problem to solve which takes as input a number n. The problem has a property that given the solution for (n1), I can easily solve the problem for n. Which programming technique will I use to solve such a problem?

- A. Iteration
- B. Decision-making
- **C.** Object Oriented Programming
- **D.** Recursion

Explanation:

No explanation provided

Question 11 of 30

A pseudocode is used with the following meaning.

"pointer" is a datatype which contains memory address (or pointers)

Statement "a = *b" puts the value at the memory address referenced by b into a.

Statement "a = &b" puts the memory address of b into a.

Statement "*b = a" puts the value a at the memory address referenced by b.

What is the output of the following code statements? The compiler saves the first integer at the memory location 4062. Integer is one byte long.

```
integer a
pointer b
a = 20
b = &a
print *b
```

- **A.** 4062
- **B.** 10
- **⊘ C.** 20
 - **D.** 4063

Explanation:

No explanation provided

42 USERS ()	22 USERS ()	20 USERS ()	52.38 %
ATTEMPTED	SOLVED CORRECTLY	SOLVED INCORRECTLY	⊙ ACCURACY
26.63 SECS	2.6 SECS		
② AVG. SOLVING	TIME X FASTEST SOLV	ING TIME	

A pseudocode is used with the following meaning.

"pointer" is a datatype which contains memory address (or pointers)

Statement "a = *b" puts the value at the memory address referenced by b into a.

Statement "a = &b" puts the memory address of b into a.

Statement "*b = a" puts the value a at the memory address referenced by b.

What is the output of the following code statements? The compiler saves the first integer at the memory location 4165 and the rest at consecutive memory spaces in order of declaration. Integer is one byte long.

```
integer a, b
pointer c, d
a = 30
c = &a
b = *c
a = a + 10
print b
```

- **⊘ A.** 30
 - **B.** 4166
 - **C.** 40
 - **D.** 4165

Explanation:

No explanation provided

Question Analytics

40 USERS ()	14 USERS ()	26 USERS ()	35.0 %
ATTEMPTED	SOLVED CORRECTLY	SOLVED INCORRECTLY	⊙ ACCURACY
26.95 SECS	11.1 SEC	S	
② AVG. SOLVING	TIME X FASTEST SOLV	ING TIME	

Question 13 of 30

A pseudocode is used with the following meaning.

"pointer" is a datatype which contains memory address (or pointers)

Statement "a = *b" puts the value at the memory address referenced by b into a.

Statement "a = &b" puts the memory address of b into a.

Statement "*b = a" puts the value a at the memory address referenced by b.

What is the output of the following code statements? The compiler saves the first integer at the memory location 4165 and the rest at consecutive memory spaces in order of declaration. Integer is one byte long.

```
integer a
pointer c, d
a = 30
c = &a
d = c
a = a + 10
print *c
```

- **A.** 30
- **B.** 4166
- **⊘ C.** 40
 - **D.** 4165

Explanation:

No explanation provided

Question Analytics

41 USERS () 17 USERS () 24 USERS () 41.46 %

ATTEMPTED SOLVED CORRECTLY SOLVED INCORRECTLY ACCURACY

43.11 SECS 4.9 SECS

② AVG. SOLVING TIME ☐ FASTEST SOLVING TIME

Question 14 of 30

What is space complexity of a program?

- **A.** Amount of harddisk space required to store the program
- **B.** Amount of harddisk space required to compile the program
- **C.** Amount of memory required by the program to run
 - **D.** Amount of memory required for the program to compile

Explanation:

No explanation provided

Question Analytics

42 USERS () 20 USERS () 22 USERS () 47.62 %

ATTEMPTED SOLVED CORRECTLY SOLVED INCORRECTLY ACCURACY

19.46 SECS 2 SECS

Question 15 of 30

The memory space needed by an algorithm has a fixed part independent of the problem instance solved and a variable part which changes according to the problem instance solved. In general, which of these two is of prime concern to an algorithm designer?

- A. Fixed part
- **B.** Variable Part
 - C. Product of fixed part and variable part
 - **D.** None of these

Explanation:

No explanation provided

Question Analytics



Question 16 of 30

While calculating time complexity of an algorithm, the designer concerns himself/herself primarily with the run time and not the compile time. Why?

- A. Run time is always more than compile time.
- **B.** Compile time is always more than run time.
- **C.** Compile time is a function of run time.
- **D.** A program needs to be compiled once but can be run several times.

Explanation:

No explanation provided

42 USERS ()	27 USERS ()	15 USERS ()	64.29 %
ATTEMPTED	SOLVED CORRECTLY	SOLVED INCORRECTLY	⊙ ACCURACY

23.6 SECS
6.9 SECS

O AVG. SOLVING TIME

Question 17 of 30

Pankaj and Mythili were both asked to write the code to evaluate the following expression: $a - b + c/(ab) + (ab)^2$ Pankaj writes the following code statements (Code A): print $(a-b) + c/(ab) + (ab)^*(ab)$

Mythili writes the following code statements (Code B):

```
d = (ab)
print d + c/d + d*d
```

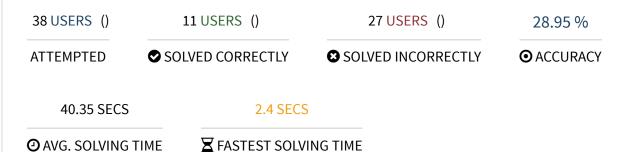
If the time taken to load a value in a variable, for addition, multiplication or division between two operands is same, which of the following is true?

- **◇ A.** Code A uses lesser memory and is slower than Code B
 - B. Code A uses lesser memory and is faster than Code B
 - **C.** Code A uses more memory and is faster than Code B
 - **D.** Code A uses more memory and is slower than Code B

Explanation:

No explanation provided

Question Analytics



Question 18 of 30

Vrinda writes an efficient program to sum two square diagonal matrices (matrices with elements only on diagonal). The size of each matrix is nXn. What is the time complexity of Vrinda's algorithm?

- **A.** $\theta(n^2)$
- \odot **B.** $\theta(n)$
 - **C.** $\theta(n*\log(n))$
 - **D.** None of these

Explanation:

Question Analytics

42 USERS ()
15 USERS ()
27 USERS ()
35.71 %

ATTEMPTED
SOLVED CORRECTLY
SOLVED INCORRECTLY
● ACCURACY

13.53 SECS

Question 19 of 30

② AVG. SOLVING TIME

Tarang writes an efficient program to add two upper triangular 10X10 matrices (elements on diagonal retained). How many total additions will his program make?

▼ FASTEST SOLVING TIME

- **A.** 100
- **⊘ B.** 55
 - **C.** 25
 - **D.** 10

Explanation:

No explanation provided

Question Analytics

Question 20 of 30

Ravi and Rupali are asked to write a program to sum the rows of a 2X2 matrices stored in the array A.

Ravi writes the following code (Code A):

```
for n = 0 to 1

sumRow1[n] = A[n][1] + A[n][2]

end
```

Rupali writes the following code (Code B):

sumRow1[0] = A[0][1] + A[0][2]sumRow1[1] = A[1][1] + A[1][2]Comment upon these codes (Assume no loop unrolling done by compiler): A. Code A will execute faster than Code B. **❷ B.** Code B will execute faster than Code A **C.** Code A is logically incorrect. **D.** Code B is logically incorrect. **Explanation:** No explanation provided **Question Analytics** 41 USERS () 15 USERS () 26 USERS () 36.59 % ATTEMPTED SOLVED CORRECTLY SOLVED INCORRECTLY ACCURACY 40.4 SECS **3.8 SECS** ② AVG. SOLVING TIME ☐ FASTEST SOLVING TIME Question 21 of 30 There is an array of size n initialized with 0. Akanksha has to write a code which inserts the value 3^k at position 3^k in the array, where k=0,1...(till possible). Akanksha writes an efficient code to do so. What is the time complexity of her code? **A.** $\theta(n^2)$ **B.** $\theta(n)$ \bigcirc **C.** $\theta(\log(\text{base 3})(n))$ **D.** $\theta(3^n)$ **Explanation:** No explanation provided **Question Analytics** 40 USERS () 18 USERS () 22 USERS () 45.0 % ATTEMPTED SOLVED CORRECTLY SOLVED INCORRECTLY • ACCURACY 20.84 SECS **1.8 SECS ▼** FASTEST SOLVING TIME ② AVG. SOLVING TIME

Question 22 of 30

There are two matrices A and B of size nXn. The data in both these matrices resides only at positions where both the indices are a perfect square. Rest all positions have 0 as the data. Manuj has available a third matrix initialized with 0's at all positions. He writes an efficient code to put the sum of A and B in C. What is the time complexity of Manuj's program?

- **A.** $\theta(n^2)$
- \bigcirc **B.** $\theta(n)$
 - **C.** $\theta(n^{1/2})$
 - **D.** $\theta(\log(n))$

Explanation:

No explanation provided

Question Analytics

38 USERS ()	17 USERS ()	21 USERS ()	44.74 %
ATTEMPTED	SOLVED CORRECTLY	SOLVED INCORRECTLY	⊙ ACCURACY
21.27 SECS	2 SECS		
② AVG. SOLVING T	TIME X FASTEST SOLVI	NG TIME	

Question 23 of 30

Ravi has to add an strictly upper triangular (no elements at diagonal) and a strictly lower triangular square matrix (no elements at diagonal) and put the result in a third matrix. What is the time complexity of Ravi's algorithm? Assume that storing a value in a memory space takes negligible time, while each addition between values takes the dominating amount of time.

- **A.** $\theta(n^2)$
- **B.** $\theta(n)$
- \bigcirc C. $\theta(1)$
 - D. None of these

Explanation:

No explanation provided

42 USERS ()	22 USERS ()	20 USERS ()	52.38 %
ATTEMPTED	SOLVED CORRECTLY	SOLVED INCORRECTLY	• ACCURACY

18.15 SECS	1.8 SECS
② AVG. SOLVING TIME	☐ FASTEST SOLVING TIME

Question 24 of 30

We have two 100X3 (rowsXcolumn) matrices containing midterm exam marks and end-term exam marks of 100 students. Each row refers to a particular student, while columns refer to marks in English, Social Sciences and Maths. The endterm and midterm marks of each student in each subject have to be added to get his total score in each subject, to be put in a third matrix (100X3). Parinidhi writes a code (Code A), where the outer loop iterates over the rows, while the inner loop iterates over the columns. Shashi writes a code (Code B), where the outer loop iterates over the columns, while the inner loop iterates over rows. Which of the following is true with regard to their code ignoring any caching or memory storage effects?

- A. Code A is faster than Code B
- **B.** Code B is faster than Code A
 - C. Code A and Code B will run in the same amount of time
 - **D.** The comparison between the speed of the codes cannot be made.

Explanation:

No explanation provided

Question Analytics

34 USERS ()	10 USERS ()	24 USERS ()	29.41 %
ATTEMPTED	SOLVED CORRECTLY	SOLVED INCORRECTLY	⊙ ACCURACY
26.6 SECS	3.1 SECS		
② AVG. SOLVING T	TIME	NG TIME	

Question 25 of 30

A code takes the following code steps (equivalently time unit) to execute: $5*n^3 + 6n^2 + 1$. Which of the following is not true about the time complexity of the program?

- **A.** It has a time complexity of $O(n^3)$
- **B.** It has a time complexity of $O(n^4)$
- \bigcirc **C.** It has a time complexity of O(n^2)
 - **D.** It has a time complexity of $\theta(n^3)$

Explanation:

No explanation provided

Question Analytics

41 USERS () 10 USERS () 31 USERS () 24.39 %

ATTEMPTED SOLVED CORRECTLY SOLVED INCORRECTLY

O ACCURACY

16.45 SECS 2.7 SECS

② AVG. SOLVING TIME ☐ FASTEST SOLVING TIME

Question 26 of 30

We have two programs. We know that the first has a time complexity O(n2), while the second has a complexity $\omega(n^2)$ true? For sufficiently large n, which of the following cannot be true?

- **A.** Both codes have same complexity
- **❷ B.** The first code has higher time complexity than the second
 - **C.** The second code has lower time complexity than the first code.
 - **D.** Both codes are the same.

Explanation:

No explanation provided

Question Analytics



21.13 SECS 4.3 SECS

Question 27 of 30

The time complexity of code A is $\theta(n)$, while for Code B it is $\theta(\log(n))$. Which of the following is true for sufficiently large n?

- **A.** Both code have the same time complexity
- **❷ B.** Code A has higher time complexity
 - **C.** Code B has higher time complexity
 - **D.** No comparison can be made between the time complexity of the two codes.

Explanation:

No explanation provided

Question Analytics

18.94 SECS 8.1 SECS

② AVG. SOLVING TIME ☐ FASTEST SOLVING TIME

Question 28 of 30

Rajini is given an efficient code for summing two nXn matrices and putting the result in a third matrix. She is asked to find it's time complexity. She realizes that the number of iterations required is more than n. What can she claim with regard to the complexity of the code?

- **A.** It is O(n)
- **B.** It is $O(n^2)$
- **C.** It is $\theta(n)$
- **Φ.** It is ω(n)

Explanation:

No explanation provided

Question Analytics

36 USERS () 2 USERS () 34 USERS () 5.56 %

ATTEMPTED SOLVED CORRECTLY SOLVED INCORRECTLY

16.86 SECS 3.4 SECS

3.10263

Question 29 of 30

Gautam is given two codes, A and B, to solve a problem, which have complexity $\theta(n)$ and $\theta(n^2)$ respectively. His client wants to solve a problem of size k, which Gautam does not know. Which code will Gautam deliver to the client, so that the execution is faster?

- **A.** Code A
- **B.** Code B
- **C.** Gautam cannot determine
 - **D.** Both codes have the same execution time, so deliver any.

Explanation:

39 USERS () TTEMPTED	8 USERS ()	31 USERS ()	20.51 %
TTEMPTED SC	NIVED CORRECTIV		
	DLVED CORRECTLY	SOLVED INCORRECTLY	• ACCURACY
15.96 SECS	4.8 SECS		
AVG. SOLVING TIME	☐ FASTEST SOLV	ING TIME	
estion 30 of 30			
Surbhi deliver to the		lem of size k, which is sufficient ecution is faster?	,
B. Code B			
C. Surbhi cannot o	determine		
D. Both codes hav	e the same executio	on time, so deliver any.	
lanation:			
explanation provided			
	Ques	tion Analytics	
1 USERS ()	23 USERS ()	18 USERS ()	56.1 %
TTEMPTED ♥SC	DLVED CORRECTLY	SOLVED INCORRECTLY	• ACCURACY
TITEMPTED \$30			
lanation: explanation provided	Quest 23 USERS ()	tion Analytics 18 USERS ()	