



HackerEarth assessment report

Candidate:
064_Nilanjana

Test:
CPC 09 : Core Subjects test

Test link:
<https://p.hck.re/5Gyl>

Report Access URL:
<https://p.hck.re/wttq> (You can share this URL with anyone to access the report.)



064_Nilanjana

Review pending

TOTAL SCORE

83/150

RANK

1/109

ATTEMPTED

37 of 50 questions

TEST
BENCHMARK ⓘ



Top 1%

Test time analysis

TEST START TIME

Apr 29 2023, 11:51:51 AM IST

TEST END TIME

Apr 29 2023, 12:27:24 PM IST

TEST DURATION

35 min 32 sec of 50 min used.

Key observations

🔗 Tabs switched 0 times

The number of times tabs are switched is recorded by the system. This also includes minimizing system notifications, automatic minimization of the current window when an application is clicked, etc.

🕒 28.93% of test duration not used

Ended the test in 35 min 32 sec. (total test duration: 50 min.)

📄 Internet plagiarism details

The candidate has not copied from internet on the test.

About 064 Nilanjana

This report is generated by HackerEarth. For more info, visit hackerearth.com/recruit.



Education

National Institute of Technology - Trichy

Languages

C++, Java, C, Java 8, C++14, C++17

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Detailed submission report

Multiple Choice Questions

Questions attempted: 37 of 50

✓	#	Questions (50)	Result	Score (83/150)
✓		Section: Data Analytics and Machine Learning	Questions attempted: 9 of 10	
1		A feature F1 can take certain value: A, B, C, D, E, & F and represents grade of students from a college. Here feature type is_____	✓	3/3
		OptionsPartial Scoring		
		A. OrdinalCORRECTLY ATTEMPTEDNo		
		B. Nominal		
		C. Categorical		
		D. Boolean		
2		The output of training process in machine learning is_____	✓	3/3
		OptionsPartial Scoring		
		A. Machine learning algorithmNo		
		B. Machine learning modelCORRECTLY ATTEMPTED		
		C. null		
		D. Accuracy		
3		The problem of finding hidden structure in unlabeled data is called_____	✓	3/3
		OptionsPartial Scoring		
		A. Supervised LearningNo		

B. Unsupervised Learning CORRECTLY ATTEMPTED

C. Reinforcement Learning

D. None

4 If machine learning model output involves target variable then that model is called as_____ ✔ 3/3

Options Partial Scoring

A. predictive model CORRECTLY ATTEMPTED No

B. descriptive model

C. reinforcement learning

D. All of above

5 Application of machine learning methods to large databases is called_____ ✔ 3/3

Options Partial Scoring

A. Data Mining CORRECTLY ATTEMPTED No

B. Artificial Intellegence

C. Big Data Computing

D. None of the above

6 What does K stand for in K mean algorithm? ✗ -1/3

Options Partial Scoring

A. No. of clusters INCORRECTLY ATTEMPTED No

B. No. of attributes

C. No. of iterations CORRECT ANSWER

D. No. of data

7 calculate accuracy,precision and recall from the given confusion matrix - — 0/3

		ACTUAL VALUES	
		POSITIVE	NEGATIVE
PREDICTED VALUES	POSITIVE	560	60
	NEGATIVE		



Options

Partial Scoring

- A. Accuracy - 0.86 , Precision - 0.65, Recall - 0.75
- No
- B. Accuracy - 0.96 , Precision - 0.5, Recall - 0.75
- CORRECT ANSWER
- C. Accuracy - 0.96 , Precision - 0.75, Recall - 0.5
- D. Accuracy - 0.75 , Precision - 0.5, Recall - 0.96

8

Bag 1 contains 4 white and 6 black balls while another Bag 2 contains 4 white and 3 black balls. One ball is drawn at random from one of the bags and it is found to be black. Find the probability that it was drawn from Bag 1.

✔

3/3

Options

Partial Scoring

- A. 12/13
- No
- B. 5/12
- C. 7/11
- D. 7/12
- CORRECTLY ATTEMPTED

9

The following is not true of the naïve Bayes classifier -

✔

3/3

Options

Partial Scoring

- A. It is easy to obtain the estimated probability for a prediction
- No
- B. It deals well with noisy and missing data
- C. It is simple, fast and effective
- D. It is ideal for data sets with large number of numeric variables

CORRECTLY ATTEMPTED

10

The following is true of the Knn algorithm

✔

3/3

Options

Partial Scoring

- A. It has slow training phase
- No
- B. It has a fast classification phase
- C. Makes no assumptions about the data distribution
- CORRECTLY ATTEMPTED
- D. Produces a predictive model

Section: OS

Questions attempted: 7 of 10

1 Which of the following features will characterize an OS as multi programmed OS?
1. More than one program may be loaded into main memory at the same time.2. If a program waits for certain event, another program is immediately scheduled.3. If the execution of a program terminates, another program is immediately scheduled.

3/3

Options Partial Scoring

- A. 1 No
- B. 1,2
- C. 1,3
- D. 1,2,3 CORRECTLY ATTEMPTED

2 The minimum number of page frames that must be allocated to a running process in a virtual memory environment is determined by.

0/3

Options Partial Scoring

- A. the instruction set architecture. CORRECT ANSWER Yes
- B. page size.
- C. physical memory size.
- D. number of processes in memory.

3 Which of the following refers to the associative memory?

-1/3

Options Partial Scoring

A. the address of the data is generated by the CPU INCORRECTLY ATTEMPTED No

- B. the address of the data is supplied by the users
- C. there is no need for an address i.e. the data is used as an address. CORRECT ANSWER
- D. the data are accessed sequentially

4 Which class of IP address provides a maximum of only 254 host addresses per network ID?

3/3

Options Partial Scoring

- A. class A No
- B. class B
- C. class C CORRECTLY ATTEMPTED
- D. class D

- 5 For a deadlock to arise, which condition(s) must hold? ✓ 3/3
- Options Partial Scoring
- A. Mutual Exclusion No
- B. No Preemption
- C. Hold and Wait
- D. All of these **CORRECTLY ATTEMPTED**
- 6 The interval from the time of submission of a process to the time of completion is termed as. ✓ 3/3
- Options Partial Scoring
- A. waiting time No
- B. turnaround time **CORRECTLY ATTEMPTED**
- C. response time
- D. throughput
- 7 In memory management, a technique called paging, physical memory is broken into fixed sized blocks called_____. ✓ 3/3
- Options Partial Scoring
- A. Pages No
- B. Frames **CORRECTLY ATTEMPTED**
- C. Blocks
- D. Segments
- 8 Which of the following is not the disc scheduling algorithm: ✓ 3/3
- Options Partial Scoring
- A. FCFS No
- B. SRJF **CORRECTLY ATTEMPTED**
- C. SCAN
- D. SSTF
- 9 Linked allocation in file allocation method suffers from . — 0/3
- Options Partial Scoring
- A. Internal Fragmentation **CORRECT ANSWER** No
- B. External Fragmentation
- C. Both 1 and 2

D. None

- 10
- Which of these are INCORRECT with respect to DHCP
-
- 0/3
1. DHCP doesn't uses UDP.

2. It is based on client server model.

3. Due to dynamic nature, network admin can never configure the network manually

4. It reduces teh total IP addresses required.

Options Partial Scoring

- A. 1

CORRECT ANSWER

 Yes
- B. 2
- C. 3

CORRECT ANSWER
- D. 4

✓

Section: CN

Questions attempted: 6 of 10

- 1
- Which data communication method is used to transmit the data over a serial communication link?
-
- 0/3
- Options

Partial Scoring

A. Simplex No

B. Full Duplex

CORRECT ANSWER

C. Half Duplex

D. All of the above

- 2
- Which of the following statements are TRUE ?
-
- 0/3
- Options

Partial Scoring

A. TCP handles both congestion and flow control

CORRECT ANSWER

 Yes

B. UDP handles congestion but not flow control

C. Fast retransmit deals with congestion but not flow control

CORRECT ANSWER

D. Slow start mechanism deals with both congestion and flow control

- 3
- A company has a class C network address of204.204.204.0. It wishes to have three subnets, onewith 100 hosts and two with 50 hosts each. Whichone of the following options represents a feasible setof subnet address/subnet mask pairs?
-
- 0/3
- Options

Partial Scoring

A.

No

o

204 204 204 128/255 255 255 192

- 204.204.204.0/255.255.255.128
- 204.204.204.64/255.255.255.128

B.

- 204.204.204.0/255.255.255.192
- 204.204.204.192/255.255.255.128
- 204.204.204.64/255.255.255.128

C.

- 204.204.204.128/255.255.255.128
- 204.204.204.192/255.255.255.192
- 204.204.204.224/255.255.255.192

D.

- 204.204.204.128/255.255.255.128
- 204.204.204.64/255.255.255.192
- 204.204.204.0/255.255.255.192

CORRECT ANSWER

4 Which one of the following is not a network layer protocol?(A) ICMP (B) DHCP(C) RARP (D) SDLC

⊗ -1/3

Options Partial Scoring

A. A Yes

B. B

C. C INCORRECTLY ATTEMPTED

D. D CORRECT ANSWER

5 Which of the following conditions must be satisfied by a polynomial generator used for CRC to detect odd number of errors? I. It should be divisible by x II. It should not be divisible by xIII. It should be divisible by 1 + xIV. It should not be divisible by 1 + x

✓ 3/3

Options Partial Scoring

A. I and IV No

B. II and III CORRECTLY ATTEMPTED

C. II and IV

D. I and III

6 How many number of bytes are there for a header in TCP segment and UDP segment respectively?(A) 16 bytes and 8 bytes (B) 8 bytes and 16 bytes(C) 8 bytes and 20 bytes (D) 20 bytes and 8 bytes

✓ 3/3

Options Partial Scoring

A. A No

- B. B
- C. C
- D. D CORRECTLY ATTEMPTED

7 In data link layer, the error detection is achieved by ✔ 3/3

Options Partial Scoring

- A. Hamming code No
- B. Bit Stuffing
- C. Cycle Redundancy Codes CORRECTLY ATTEMPTED
- D. Equalization

8 The number of networks allowed under class C address of an IPv4 network is: ✖ -1/3

Options Partial Scoring

- A. 2^{21} No

CORRECT ANSWER

- B. 2^{24}

- C. 2^{16}

- D. 2^8

INCORRECTLY ATTEMPTED

9 The transport layer protocols used for DNS, WWW, Volp and FTP respectively are: — 0/3

- (A) UDP, TCP, TCP and UDP
- (B) TCP, UDP, UDP and TCP
- (C) TCP, UDP, TCP and UDP
- (D) UDP, TCP, UDP and TCP

Options Partial Scoring

- A. A No
- B. B
- C. C
- D. D CORRECT ANSWER

10 What is the size of sender's window for stop and wait, Go-back N and selective repeat, when the available sequence numbers are 8. ✔ 3/3

Options

Partial Scoring

- A. 1, 7, 4

CORRECTLY ATTEMPTED
- B. 8, 8, 8
- C. 4, 4, 4
- D. 2, 4, 8

Section: DSA

Questions attempted: 8 of 10

1

✓

3/3

A connected planar graph having 6 vertices, 7 edges contains _____ regions.

Options

Partial Scoring

- A. 4
- B. 3

CORRECTLY ATTEMPTED
- C. 1
- D. 5

2

✓

3/3

What is the maximum number of edges in a bipartite graph having 10 vertices?

Options

Partial Scoring

- A. 24
- B. 21
- C. 25

CORRECTLY ATTEMPTED
- D. 16

3

—

0/3

Which one of the following hash function on integers will distribute keys most uniformly over 10 buckets numbered 0 to 9 for i ranging from 0 to 2020?

Options

Partial Scoring

- A.

$$h(i) = (12 \cdot i) \bmod 10$$

CORRECT ANSWER
- B.

$$h(i) = (11 \cdot i^2) \bmod 10$$
- C.

$$h(i) = i^3 \bmod 10$$
- D.

$$h(i) = i^2 \bmod 10$$

- 4 The following numbers are inserted into an empty BST in the order: 10, 1, 3, 5, 15, 12, 16,. What is the height of the BST?
(Assume root to be at height 0)
- Options Partial Scoring
- A. 2 No
- B. 3 **CORRECTLY ATTEMPTED**
- C. 4
- D. 6
- 5 The most efficient algorithm for finding the number of connected components in an undirected graph on n vertices and m edges has time complexity.
- Options Partial Scoring
- A. $\theta(m)$ No
- B. $\theta(n)$
- C. $\theta(mn)$
- D. $\theta(m+n)$ **CORRECTLY ATTEMPTED**
- 6 Priority Queue can be implemented using
- Options Partial Scoring
- A. Linked List No
- B. Array
- C. Heap
- D. All of the above **CORRECTLY ATTEMPTED**
- 7 If a problem can be solved by combining optimal solutions to non-overlapping problems, the strategy is called _____
- Options Partial Scoring
- A. Dynamic Programming No
- B. Greedy
- C. Divide and Conquer **CORRECTLY ATTEMPTED**
- D. Recursion
- 8 When it would be optimal to prefer Red-black trees over AVL trees?
- Options Partial Scoring



3/3



3/3



3/3



3/3



0/3

- A. when there are more insertions or deletions

CORRECT ANSWER

No
- B. when more search is needed
- C. when log(nodes) time complexity is needed
- D. None of the above

9

The worst case occur in quick sort when

✓

3/3

- Options

Partial Scoring
- A. Pivot is the median of the array

No
- B. Pivot is the smallest element

CORRECTLY ATTEMPTED
- C. Pivot is the middle element
- D. None of the mentioned

10

The time complexity to find the longest common subsequence of two strings of length M and N is?
(Using most optimal solution to the problem)

✓

3/3

- Options

Partial Scoring
- A. O(N)

No
- B. O(N*M)

CORRECTLY ATTEMPTED
- C. O(M)
- D. O(logN)

✓

Section: DBMS

Questions attempted: 7 of 10

1

In a schema with attributes A, B, C, D and E following set of functional dependencies are given $A \rightarrow B$ $A \rightarrow C$ $CD \rightarrow E$ $B \rightarrow D$ $E \rightarrow A$ Which of the following functional dependencies is NOT implied by the above set?

✓

3/3

- Options

Partial Scoring
- A. $CD \rightarrow AC$

No
- B. $BD \rightarrow CD$

CORRECTLY ATTEMPTED
- C. $BC \rightarrow CD$
- D. $AC \rightarrow BC$

2

For the relation R(ABCDEFGH) with FD's= {CH->G, A->BC, B->CHF, E->A, F->EG such that F+ is exactly the set of FDs that hold for R.} Consider the FDs given in above question. The relation R is

—

0/3

- Options

Partial Scoring

A. in 1NF but not in 2NF CORRECT ANSWER No

B. in 2NF but not in 3NF

C. in 3NF but not in BCNF

D. in BCNF

3

Which of the following statements are TRUE about an SQL query? P : An SQL query can contain a HAVING clause even if it does not have a GROUP BY clause Q : An SQL query can contain a HAVING clause only if it has a GROUP BY clause R : All attributes used in the GROUP BY clause must appear in the SELECT clause S : Not all attributes used in the GROUP BY clause need to appear in the SELECT clause

⊗

-1/3

Options Partial Scoring

A. P , R No

B. P , S CORRECT ANSWER

C. Q, R

D. Q , S INCORRECTLY ATTEMPTED

4

How many operations of transactions are there?

—

0/3

Options Partial Scoring

A. 3 No

B. 4 CORRECT ANSWER

C. 5

D. 6

5

Consider the following partial Schedule S involving two transactions T1 and T2. Only the read and the write operations have been shown. The read operation on data item P is denoted by read(P) and the write operation on data item P is denoted by write(P)

⊗

-1/3

Time Instance	Transaction-id	
	T1	T2
1	read(A)	
2	write(A)	
3		read(C)
4		write(C)
5		read(B)

6		write(B)
7		read(A)
8		Commit
9	read(B)	
	Schedule S	

Suppose that the transaction T1 fails immediately after time instance 9. Which one of the following statements is correct?

- Options
- Partial Scoring
- No
- A. T2 must be aborted and then both T1 and T2 must be re-started to ensure transaction atomicity
- B. Schedule S is non-recoverable and cannot ensure transaction atomicity CORRECT ANSWER
- C. Only T2 must be aborted and then re-started to ensure transaction atomicity
- D. Schedule S is recoverable and can ensure atomicity and nothing else needs to be done INCORRECTLY ATTEMPTED

6

A record in MongoDB is a ____.

✔

3/3

- Options
- Partial Scoring
- No
- A. Document CORRECTLY ATTEMPTED
- B. Table
- C. Vertex
- D. Application

7

Which of the following is a correlated subquery?

✖

-1/3

- Options
- Partial Scoring
- No
- A. Uses the result of an inner query to determine the processing of an outer query. INCORRECTLY ATTEMPTED
- B. Uses the result of an outer query to determine the processing of an inner query. CORRECT ANSWER
- C. Uses the result of an inner query to determine the processing of an inner query.
- D. Uses the result of an outer query to determine the processing of

an outer query.

8

What is NOLOCK in SQL equivalent to?

—

0/3

Options

Partial Scoring

- A. WRITE UNCOMMITTED
- No
- B. WRITE COMMITTED
- C. READ COMMITTED
- D. READ UNCOMMITTED
- CORRECT ANSWER

9

If the state of the database no longer reflects a real state of the world that the database is supposed to capture, then such a state is called

✔

3/3

Options

Partial Scoring

- A. Consistent State
- No
- B. Inconsistent State
- CORRECTLY ATTEMPTED
- C. Parallel State
- D. Atomic State

10

For designing a normal RDBMS which of the following normal form is considered adequate?

✔

3/3

Options

Partial Scoring

- A. 1NF
- No
- B. 2NF
- C. 3NF
- CORRECTLY ATTEMPTED
- D. 4NF