**SET A**

**ARMY PUBLIC SCHOOL, DHAULA KUAN**

**CLASS: XI SUBJECT : COMPUTER SCIENCE**

**TIME: 1HR M.M: 30**

**General Instructions:**

1. **All programming questions to be answered using Python language only.**
2. **All questions are compulsory.**

Q Predict the output of the following query: [1]

SELECT MOD (9,0);

Ans NULL

Q Evaluate the following statement and write output: [1]

print(3-2\*\*2\*\*3+99/11)

Ans -244.0

Q Consider the statements given below and then choose the correct output from the given options: pride="#G20 Presidency" [1]

print(pride[-2:2:-2])

a) ndsr b) ceieP0 c) ceieP d) yndsr

Ans (b) ceieP0

Q Consider the following code and answer the questions that follow: [1+1=2]

Book={1:'Thriller', 2:'Mystery', 3:'Crime', 4:'Children Stories'}

Library ={'5':'Madras Diaries','6':'Malgudi Days'}

(a). What will be the output of the following line of code:

print(list(Library))

1. [‘5’,’Madras Diaries’,’6’,’Malgudi Days’]
2. (‘5’,’Madras Diaries’,’6’,’Malgudi Days’)
3. [’Madras Diaries’,’Malgudi Days’]
4. [‘5’,’6’]

Correct Answer: iv

(b). In order to check whether the key 2 is present in the dictionary Book, Ramesh uses the following command:

2 in Book

He gets the answer ‘True’. Now to check whether the name ‘Madras Diaries’

exists in the dictionary Library, he uses the following command:

‘Madras Diaries’ in Library

But he gets the answer as ‘False’. Select the correct reason for this:

1. We cannot use the in function with values. It can be used with keys only.
2. We must use the function Library.values() along with the in operator
3. We can use the Library.items() function instead of the in operator
4. Both b and c above are correct.

Correct Answer: ii

Q) Predict the output of the following queries based on the table CAR\_SALES [1x3=3]

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | | No | UMBER | SEGMEN | T FUEL | QT1 QT | | 1 | Compact HatchBack | Petrol | 56000 | 70000 | | 2 | Compact HatchBack | Diesel | 34000 | 40000 | | 3 | MUV | Petrol | 33000 | 35000 | | 4 | MUV | Diesel | 14000 | 15000 | | 5 | SUV | Petrol | 27000 | 54000 | | 6 | SUV | Diesel | 18000 | 30000 | | 7 | Sedan | Petrol | 18000 | 10000 | | 8 | Sedan | Diesel | 1000 | 5000 | |  |  |  |  |
|  |  |  |  |  |

a) SELECT substr(SEGMENT,2,1) FROM CAR\_SALES WHERE FUEL="PETROL";

b) SELECT (QT2-QT1)/2 "AVG SALE" FROM CAR\_SALES WHERE SEGMENT= "SUV";

c) SELECT SUM(QT1) "TOT SALE" FROM CAR\_SALES WHERE FUEL= "DIESEL";

Ans

(a)

substr(SEGMENT,2,1)

o

U

U

e

(b)

(QT2-QT1)/2

13500

6000

(c) TOT SALE

67000

Q Write the SQL statement to display all the information asked in queries (a-d) based on the tables

below: [1x4=4]

SALESPERSON TABLE

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| salesperson\_id | name | city | incentive |  |
| 1001 | Nitin | Jairam | Delhi | 0.12 |
| 1002 | Gaurav | Jha | Kolkata | 0.13 |
| 1007 | Vinita | S | Hyderabad | 0.11 |
| 1003 | Jockim | Lobo | Bangalore | 0.15 |
| 1005 | Arun | Mehta | Bhopal | 0.14 |
| 1006 | Vinny | Noom | Mumbai | 0.12 |

ORDER TABLE

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| order\_no | purchase\_amt | Order\_date | customer\_id | sales person\_id |
| 30001 | 1500 | 10/15/2019 | 2002 | 1003 |
| 30002 | 2400 | 9/5/2019 | 2005 | 1002 |
| 30003 | 2100 | 11/25/2019 | 2001 | 1007 |
| 30004 | 3200 | 10/7/2019 | 2006 | 1003 |
| 30005 | 3520 | 8/12/2019 | 2003 | 1005 |
| 30006 | 2600 | 3/1/2019 | 2004 | 1007 |
| 30007 | 2100 | 11/25/2019 | 2007 | 1001 |
| 30008 | 3200 | 10/7/2019 | 2006 | 1003 |
| 30009 | 3520 | 8/12/2019 | 2003 | 1005 |
| 30010 | 2600 | 3/1/2019 | 2001 | 1007 |

a) Delete the record from order table where order number is 30009

b) Write an SQL statement to display customer\_id and salesperson\_id from order table where purch\_amount is between 1000 and 2500.

c) Write a query to display all the columns from salesperson sort the result in an ascending order by the name and incentive.

d) Write an SQL statement to display salesperson\_id and sum of purch\_amount from order table grouped by customer\_id.

Ans. a) DELETE FROM order WHERE order\_no=30009;

b) SELECT customer\_id, salesperson\_id FROM order WHERE purch\_amount BETWEEN 1000 AND 2500;

c) SELECT \* FROM salesperson ORDER BY name, incentive;

d) SELECT salesperson\_id, SUM(purch\_amt) FROM order GROUP BY customer\_id;

Q Write a function countNow(PLACES) in Python, that takes the dictionary, PLACES as an argument and displays the names (in uppercase)of the places whose names are longer than 5 characters. [3]

For example, Consider the following dictionary PLACES={1:"Delhi",2:"London",3:"Paris",4:"New York",5:"Doha"}

The output should be:

LONDON

NEW YORK

Ans

places={1:'Delhi',2:'London',3:'Paris',4:'New York',5:'Dubai'}

def countnow(places):

for place in places.values():

if len(places)>5:

print(places.upper())

countnow(places)

Q In MYSQL database, if a table, Alpha has degree 5 and cardinality 3, andanother table, Beta has degree 3 and cardinality 5, what will be the degree and cardinality of the Cartesian product of Alpha and Beta? [1]

ans 8,15

Q What possible outputs(s) will be obtained when the following code is executed? [2]

import random

myNumber=random.randint(0,3)

color=['YELLOW','WHITE','BLACK','RED']

for i in color:

for j in range(1,myNumber):

print(i,end='\*')

print()

Options:

|  |  |
| --- | --- |
| a).  RED\*  WHITE\*  BLACK\*  RED\* | b).  YELLOW\*  WHITE\*  BLACK\*  RED\* |
| c).  WHITE\* WHITE\*  YELLOW\* YELLOW\*  BLACK\* BLACK\*  RED\* RED\* | d).  YELLOW\*  WHITE\*WHITE\*  BLACK\* BLACK\* BLACK\*  RED\* RED\* RED\* RED\* RED\* |

Ans Option b

YELLOW\*

WHITE\*

BLACK\*

RED\*

Q Rajat has written the following Python code. There are some errors in it. Rewrite the correct code and underline the corrections made. [2]

DEF execmain():

x = input("Enter a number:")

if (abs(x)=x):

print ("You entered a positive number")

else:

x=\*-1

print "Number made positive:"x

execmain()

Ans

def execmain(): #def should be in small letters

x = int(input("Enter a number:")) #int() missing

if (abs(x)==x): #use = = in place of =

print ("You entered a positive number") #indentation after if statement

else: #invalid syntax . else should use with if

x\*=-1 #can't use \* here

print("Number made positive:",x) #missing parentheses and comma (,) in print (). ,indentation missing

execmain()

Q Write the output of following python code: [2+2]

|  |  |
| --- | --- |
| (a)  def result(s):  n = len(s)  m=''  for i in range(0, n):  if (s[i] >= 'a' and s[i] <= 'm'):  m = m + s[i].upper()  elif (s[i] >= 'n' and s[i] <= 'z'):  m = m + s[i-1]  elif (s[i].isupper()):  m = m + s[i].lower()  else:  m = m + '#'  print(m)  result('Cricket')  Ans cCICKEe | (b)  a = 10  print(a\*3)  def fun1(a):  def fun2():  print("hello")  print("hello")  print(a\*2)  fun2()  fun1(a)  print(a)  Ans.  30  hello  20  hello  10 |

Q Differentiate between the following with the help of an example. [1.5+1.5]

1. Formal parameters and actual parameters
2. order by and group by

Ans

those variables which are defined in the function definition called formal parameters

those variables which are defined in the function calling called actual parameters

e.g.

def fun(param): #formal parameter called "param".

When we call the function like so:

fun(sample\_param) #actual parameter "sample\_param"

Q Kabir wants to write a program in Python to insert the following record in the table named Student in MYSQL database, SCHOOL: [3]

rno(Roll number )- integer

name(Name) - string

DOB (Date of birth) – Date

Fee – float

Note the following to establish connectivity between Python and MySQL:

Username - root

Password - tiger

Host - localhost

The values of fields rno, name, DOB and fee has to be accepted from the user. Help Kabir to write the program in Python.

Ans

import mysql.connector as mysql

con1=mysql.connector(host='localhost',user='root',password='tiger',database='school')

mycursor=con1.cursor()

rno=int(input('enter roll number:'))

name=input('enter the name')

dob=input('enter date of birth')

fee=float(input('enter fee:'))

mycursor.execute("insert into student values({},'{}','{}',{})".format(rno,name,dob,fee))

con1.commit()

con1.close()