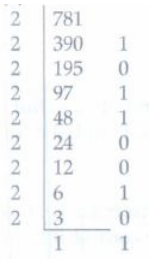
Visit QB365-SLMS - https://www.qb365.in/slms/ Complete Questions and Answers

Answers Key:

4 Marks



1. $781_{10}=1100001101_2$

(b) 101101 . 001, to -10

543210-1-2-3

$= 1 X 2^5 + 0 X 2^4 + 1 X 2^3 + 1 X 2^2 + 0 X 2^1 + 2^0 + 0 X \frac{1}{2} + 0 \quad \times \frac{1}{2^2} + 1 \times \frac{1}{2^3}$

$= 32 + 0 + 8 + 4 + 0 + 1 X \frac{1}{8}$

= 45.15.125

$101101.001_2=45.125_{10}$

(c) 321.7_8 to 2

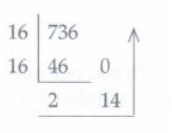
Use chart

3 2 1 7

011 010 001 111

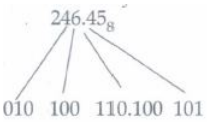
$321.7_8 = 11010001.111_2$

2. (a) 736_{10}= -16

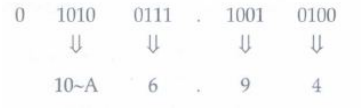


$7361_0 = 2EO_{16}$

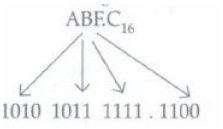
Step 1: Convert to Binary



(b) Step 2: Convert to hex by making groups of 4



A6.94 :. 246.45_8= A6.94



101 010 111 111 . 110 0

5 2 7 7 . 6 0

5277.60_8

(d) 5756_8= -10

111

210

$= 5 \times 8^2 + 7 X 8^1 + 68$

$=5 \times 64 + 56 + 6$

$= 320 + 56 + 6$

$= 382_{10}$

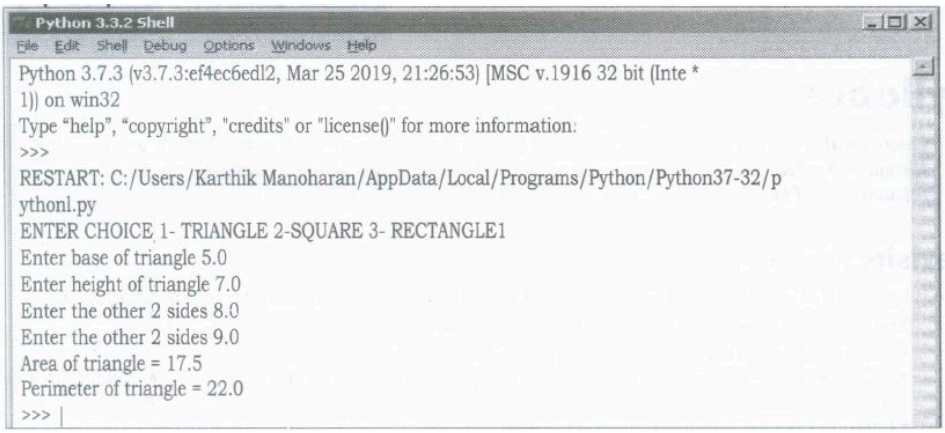
$576_8 = 382_{10}$

(e) A 5 C_{16} = 10

$= A \times 16^3 + 5 \times 16^2 + C \times 16^1 + 1 \times 16^0$
$= 10 \times 4096 + 256 + 12 \times 16 + 1$
$= 40960 + 1180\ 192 + 1$
$= 42333$
$A5C1_{16} = 42333_{10}$

3. Python's features include -
i) Easy-to-Iearn - Python has few keywords, simple structure, and a clearly defined syntax. This allows the student to pick up the language quickly.
ii)Easy-to-read - Python code is more clearly defined and visible to the eyes.
iii) Easy-to-maintain - Python-s source code is fairlyeasy-to-maintain.
iv) A broad standard library - Python-s bulk of the library is very portable and cross-platform compatible on UNIX,Windows, and Macintosh.
v) Interactive Mode -:- Python has support for an interactive mode which allows interactive testing and debugging of snippets of code.
vi) Portable - Python can run on a wide variety of hardware platforms and has the same interface on all platforms.
vii)Extendable - You can add low-level modules to the Python interpreter. These modules enable programmers to add to or customize their tools to be more efficient.
viii) Databases - Python provides interfaces to all major commercial databases.
ix) GUI Programming - Python supports GUI applications that can be created and ported to many system calls, libraries and windows systems, such as Windows MFC, Macintosh, and the XWindow system of Unix.
x) Scalable - Python provides a better structure and support for large programs than shell scripting.

4.
```
import math
choice = int(input(" ENTERCHOICE 1- TRlANGLE 2-SQUARE 3- RECTANGLE"))
if choice= =1:
base = float(input("Enter base of triangle"))
height=float(input("Enter height of triangle"))
area = 0.5 * base * height
a = float(input("Enter the other 2 sides"))
b = float(input("Enter the other 2 sides"))
peri = a + b + base
print("Area of triangle =", area)
print("Perimeter of triangle =", peri)
elif choice = =2:
side = float(input("Enter side of square"))
area = side *side
peri = 4* side
print("Area of square =", area)
print("Perimeter of square =",peri)
elif choice= =3:
 length = float(input("Enter length of rectangle"))
breadth = float(input("Enter breadth of rectangle"))
area = length*breadth
peri = 2 *(length + breadth)
print("Area of rectangle =", area)
print("Perimeter of rectangle =",peri)
else:
 print("Done")
```
Sample Output:



3 Marks

5.

2	259	Remainder
2	129	1 LBS
2	64	1
2	32	0
2	16	0
2	8	0
2	4	0
2	2	0
2	1	0
	0	1 MBS

Therefore: $(259)_{10} = (100000011)_2$

6.

Decimal	Binary	Octal
0	000	0
1	001	1
2	010	2
3	011	3
4	100	4
5	101	5
6	110	6
7	111	7

2	57	Remainders
2	28	1 LBS
2	14	0
2	7	0
2	3	1
2	1	1
	0	1 MBS

7.

$5710 = 111001_2$

(b)

2	642	Remainders
2	321	0 LBS
2	160	1
2	80	0
2	40	0
2	20	0
2	10	0
2	5	0
2	2	1
2	1	0
	0	1 MBS

$642_{10}=1010000010_2$

2 Marks

8. An identifier starts with a letter A to Z or a to z or an underscore (_) followed by zero or more letters, underscores and digits (0 to 9).
Python does not allow punctuation characters such as @, $, and % within identifiers. Python is a case sensitive programming language. Thus, Count and count are two different identifiers in Python.
9. Assigning same value to multiple variables:
We can assign same value to multiple variables:
Example: a=b=c=10
Assigning Multiple values to multiple variables:
Wecan assign multiple values to multiple variables in single statement e.g. X, Y,Z=10, 20, 30 It will assign the values order wise, i.e. first variable is given first value, second variable the second value and so on.
10. These are the values: 9 30 0.875
11. The various number types are Integers, Floating point, Boolean, complex numbers
12. 2.0
13. Immutable means unchangeable. In Python, immutable types are those whose values cannot be changed in place. Whenever one assigns a new value to a variable referring to immutable type, variable's reference is changed and the previous value is left unchanged.
14. F = (A'.B)'+ (C + D')

Multiple Choice Question

15. (b) 0011_2
16. (c) 10

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17. (b) (X+ Y) (Y+Z)
18. (c) and (d)
19. (b) and (d)
20. (b) print(a, end=" ",b)
21. (a) Read-Only Memory
22. (b) 7
23. (b) Complement Law
24. (b) A+B
25. (a) Inverts the input
26. (c) Keywords
27. (a) Identifiers
28. (c) \n
29. (c) Guido van Rossum
30. (b) yes
31. (c) .py
32. (b) *
33. (b) len()
34. (b) Parenthesis
35. (b) ('P', 'y', 't', 'h', 'o', 'n')

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