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CSE - B,

① what the data types in python ? Explain

1) ⚬ Numeric data types

① int → Integer is a whole number, without decimals of unlimited length

Ex   x=20

② float → Floating point number is a number, positive or negative contaring one or more decimal.

Ex   x= 20.456

③ complex → complex numbers are written with a "j" as a imaginary part

Ex   z= 3+5j

* Test Data type

⚬ string → string literals in python are surrounded by either single quotation marks or double marks

Ex   y= " Hello world"

⚬ Boolean Data type

① bool → only two expression True or False.
   If it runs the condition statement it give
   ⚬ else false

② Expl
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Q Explain the history of python?

1) python has become one of the most interactive programming language of our time. It was convince by Guido van Rossum at ceaT in the Netherland during the late 1980's

The most amazing story is that he created python using story his computer. His office has closed and all he had was this simple machine and his brilliant mind. Thus, first version of this program first appeared in 1991. that is 29 years ago. python was ironically named after the famous British sketch comedy series "Monty python Flying circus" as the founding father was a big fan.

In febrauary 1991, the first public version of python numbered 0.9.0.7 was posted. the usenet alt source forrum.

The development team moved to python Bedpen.com in 2000. And that is where python 2.0 was released

Now python succeeded in releasing he new major versio, python 3.0 in 2008. And followed by upcoming veon

Explain all the operators in python?

A) ① Arthematic operators: used to perform common mathematical operations. They are

Operator	Name	Example
+	Addition	x+y
-	Substraction	x-y
*	Multiplication	x*y
/	Division	x/y
%	Modulus	x%y
**	Exponentation	x**y
//	Floor division	x//y

② Assignment operator :- To Assign values to variable

operator	Example	same as
=	x=5	x=5
+=	x+=3	x=x+3
-=	x-=3	x=x-3
*=	x*=3	x=x*3
/=	x/=3	x=x/3
%=	x%=3	x=x%3
//=	x//=3	x=x//3
**=	x**=3	x=x**3
&=	x&=3	x=x&3

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^=

>>=

<<=

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$=$	$x!=3$	$x=x/3$
$\sim$	$x^=3$	$x=x^3$
$>>=$	$x>>=3$	$x=x>>3$
$<<=$	$x<<=3$	$x=x<<3$

⑤ Comparison operators:

operator	Name	Example
$==$	Equal	$x==y$
$!=$	Not equal	$x!=y$
$>$	Greater than	$x>y$
$<$	lesser than	$x<y$
$>=$	Greater than or equal to	$x>=y$
$<=$	lesser than or equal to	$x<=y$

⑥ Logical operators:-

operator	Description	Example
and	Return true if statement is true	$x<5$ and $y>2$
or	Return True if one statement is true	$x<5$ or $y>2$
not	Reverse the result if the result is true returns false	$not(x<3)$

⑥ Identity operators

operators	Description	Example
is	Returns true if both variably are the same object	x is y
is not	Returns true if both variables are not the same object	x is not y

⑥ python membership operators

operators	Description	Example
in	Returns True if a sequence with a specified value is present in the object	x in y x = ("apple", "ball") print ("ball" in x True
not in	Returns True if the specified value is not the object	x is not y

7. Bitwise operators

Operator	Name	Example
x	AND	x & y
	OR	x | y
^	XOR	x ^ y
~	NOT	x ~ y
<<	Left shift	x << y
>>	Right shift	x >> y

Q) Explain the features of python.

A) python provides lots of feautres, that are listed below

① Easy to learn and use:-

python is easy to learn and use. It is developer - friendly and high level programming language.

② Expressive language:-

python language is more expressive means that is more understandable and readable

③ Interpreted language:-

python is an interpreted language i.e interpreter excutes the code line by line at a time. This makes debugging easy and thus suitable for begineers

④ cross-platform language:

python can run equally on different platforms such as windows, Linux, unix etc. So, we can say python is a portable language

⑤ Free and open source:

python language is freely available at official web addres the source code is also available. Therefore it is opensource

⑥ object oriented language

python supports object oriented language and

and concepts of classes and object come to
existence

⑦ Extensible: It implies that other languages
such as c/c++ can be used to compile
the code and thus it can be used further
in our python code.

⑧ Large (standard library):-
      python has large and broad library
and provides rich set of module and function
for rapid application development.

⑨ GUI programming support:-
      Graphical user interfaces can be developed
using 'python'.

⑩ Integrated:-
      It can be use easily integrated with
language like C, c++, Java. etc

⑤ Justify why python is interactive interpreted
Language.

A) (py files are run in the python
interpreter or mode is a command line shell
which gives immediate feedback - for each
statement, while running previously fed.
statement   in active memory As new
lines are fed into the interpreter, the
fed program is evaulated both in part
and in whole,