Assignment 1

1. Accept the radius from user and find area of circle. Hint: math.pi

```
import math;

r=input("Enter a radius: ");
a=math.pi*float(r)*float(r);
print("Area : %f" %a);
```

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2. Find biggest of 3 numbers entered by user from console. Hint: max()

```
import math;

str=input("Enter 3 values seperated by ',' :- ");
a=str.split(",");
print("Largest = "+max(a[0],a[2],a[1]));
```

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3. Accept an integer n < 10 and compute n+nn+nnn. Hint : n=2 then sum = 2+ 22+ 222 = 246 a = int(input(‘Enter value’)) # Use string formatting : n1 = int(“%s” % a) n2 = int(“%s%s” “(a,a)) etc. # Similar formatting can be used in print(): print(‘The sum of %d, %d and %d is %s’ % (n1,n2,n3,sum))

```
import math;

n=int(input("Enter a number : "));
n1=int("%s" %n);
n2=int("%s%s" %(n,n));
n3=int("%s%s%s" %(n,n,n));
res=n1+n2+n3;
print("%d+%d+%d = %d" %(n1,n2,n3,res));
```

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4. Write a demo program to perform type conversion between all basic data types and also with string.

```
import math;

n=input("Enter a digit : ");
x=int(input("Enter a integer : "));
y=float(input("Enter a float : "));

n1=int(y);
n2=float(x);
n3=str(x);
n4=int(n);
n5=str(y);
n6=float(n);

#print(type(n));
#print(type(x));
#print(type(y));

print ("after conversion");
print(type(n1));
print(type(n2));
print(type(n3));
print(type(n4));
print(type(n5));
print(type(n6));
```

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5. Write short notes on all basic types with examples.

5. Basic data types in python?

Python is dynamically bound language, hence we don't have to declare. when we use interpreter implicitly bind the value to its type.

they are int, float, str, Complex, boolean.

int.

a = 5; store numeric values. automatically bind as integer. Such as 10, 0, -29, -4 etc no restriction on value.

float.

float used to floating point numbers like 1.9, 0.3, -4.6 etc. it is accurate upto 15 decimal point.

eg) a = 1.3;

boolean.

it hold the value as true or false. these value can be used to determine the given statement

true or False. It denote by the class bool.
Any Non-zero Value or T can be used to represent true and 0 or F for False.

eg) a = true;
b = t;
c = F;
d = false.
e =

f = 0;
F = 1;

Complex.

Complex contains an ordered pair ie, $a+iy$ form where a & y denote ~~integer~~ real & imaginary Numbers respectively.

$a = 2+4i$, $B = 0+4i$ etc.

String.

Sequence of characters in double quotes. Single quotes, double quotes or triple quotes can be used to define strings.

eg a = "Hello world";
b = 'Hai';

triple quotes can be used for Multiline strings.

type() & isinstance()

type function to know the data type of variable.

```
a = 5;
print type (a);   ⟹ o/p. <class int>.
```

```
a = 2.3
type(a) ⟹ <class float.
```

Is instance() used to check an object belong to particular class.

eg) isInstance(1+3j, Complex) ⟹ return true.

o/p will be boolean (True/False)

type casting.

```
a = 5;
b = float(a)   ⟹ convert to float. ⟹ b ⟹ 5.0
c = float 4.7.
d = int(a, b) ⟹ Convert to int ⟹ d = 4.
```

(int);

str() :- Convert to string

```
x = str(1).
y = str(*);
```