INPUT

```
#Display number of days in given month(Ripunjay,Manasvi)

a = int(input('Enter a month in number : '))
if a in[1,3,5,7,8,10,12]:
   print('The month has 30 days')
elif a == 2:
   b =int(input('Enter year: '))
   if b%4==0:
      print('The month has 29 days')
   else:
      print('The month has 28 days')
elif a not in[1,2,3,5,7,8,10,12]:
   print('The month has 31 days')
else:
   print('Invalid number ')
```

OUTPUT

```
Enter a month in number : 1
The month has 30 days

Enter a month in number : 2
Enter year: 2004
The month has 29 days

Enter a month in number : 2
Enter year: 2005
The month has 28 days

Enter a month in number : 4
The month has 31 days
```

INPUT

```
# ROOTS OF QUDRATIC EQAUTION (Ripunjay,Manasvi)

 import math

 a=float(input("coefficient of x^2: "))
 b=float(input("coefficient x: "))
 c=float(input("constant term: "))
 if a==0 :
    print("the given equation is linear equation")
    r = -c / b
    print("Root : " , r) else
 :
    d = b * b - 4 * a * c if d
    == 0 :
       print("roots are real and equal") r1
       = r2 = -b / (2 * a)
       print("roots : ", r1, "\t", r2) elif d
    > 0 :
       print("roots are real and unequal") r1
       = (-b + math.sqrt(d)) / (2 * a)
       r2 = (-b - math.sqrt(d)) / (2 * a)
       print("roots : ", r1, "\t", r2) else :
       print("roots are imaginary")
```

OUTPUT

```
 coefficient x: 4
 contant term: 7 roots
 are imaginary

 coefficient of x^2: 1
 coefficient x: 2
 contant term: 1
 roots are real and equal
 roots   :   -1.0    -1.0

coefficient of x^2: 1
 coefficient x: 5
 contant term: 6
 roots are real and unequal
 roots  :   -2.0     -3.0
```

INPUT

```
#displaying areas  of square,rectangle or circle
shape = input("Enter any one shape(circle,rectangle or square): ")
if shape == 'rectangle':
   l = float(input("Enter length: "))
   b = float(input('Enter Breadth: '))
   print('Area of rectangle with length',l,'and breadth',b,'is',l*b)
elif shape == 'square':
   s = float(input("Enter length of a side: "))
   print('Area of square with length of side ',s,'is',s*s)
elif shape == 'circle':
   r = float(input("Enter radius of circle: "))
   print('Area of circle with radius',r,'is',(22/7)*r*r)
else:
   print('invalid shape')
```

OUTPUT

```
Enter any one shape(circle,rectangle or square): circle
Enter radius of circle: 4
Area of circle with radius 4.0 is 50.285714285714285

Enter any one shape(circle,rectangle or square): rectangle
Enter length: 2
Enter Breadth: 3
Area of rectangle with length 2.0 and breadth 3.0 is 6.0

Enter any one shape(circle,rectangle or square): square
Enter length of a side: 2
Area of square with length of side  2.0 is 4.0
```

INPUT

```
#display percentage and grade of a student appearing in five subjects

print('marks are out of 100 in all subjects')
a = float(input('Enter the subjects 1: '))
b = float(input('Enter the subjects 2: '))
c = float(input('Enter the subjects 3: '))
d = float(input('Enter the subjects 4: '))
e = float(input('Enter the subjects 5: '))
p = (((a+b+c+d+e)/500)*100)
print('Total Marks percentage in all subjects',p)
if 100>= p >90:
   print('Your grade is A')
elif p >= 80:
   print('Your grade is B')
elif p >= 70:
   print('Your grade is C')
elif p >= 60:
   print('Your grade is D')
else:
   print('Your grade is E')
```

OUTPUT

```
marks are out of 100 in all subjects
Enter the subjects 1: 99
Enter the subjects 2: 99
Enter the subjects 3: 99
Enter the subjects 4: 100
Enter the subjects 5: 100
Total Marks percentage in all subjects 99.4
Your grade is A
```

INPUT

```
#validity of date(Ripunjay,manasvi)
d=int(input('enter date [dd]= '))
m=int(input('enter month[mm]= '))
y=int(input('enter years[yy]= '))
if d>31 or d<1 or m>12 or m<1:
   print('\n\t invalid date')
elif m in [1,3,5,7,8,10,12]:
   print('\n \t date exists ')
elif m in [4,6,9,11] and 0<d<31:
   print('\n \t date exists')
elif d==28 or (d==29 and ((y%4==0 and y%100!=0)or (y%4==0 and y%400==0))):
   print('\n \t date exists ')
else:
   print('\n\t invalid date ')
```

OUTPUT

```
enter date [dd]= 33
enter month[mm]= 10
enter years[yy]= 2020

        invalid date

enter date [dd]= 31
enter month[mm]= 12
enter years[yy]= 2020

        date exists
```