Python Practical Basics Assignment 5

1:

```
num1 = int(input('Enter first number: '))
num2 = int(input('Enter second number: '))

# check weather number is prime or not

l1 = []

for i in range(2,num1-1):
    if num1%i==0:
        break
else:
    l1.append(num1)

for i in range(2,num2-1):
    if num2%i==0:
        break
else:
    l1.append(num2)

if (num1 in l) and (num2 in l):
    print('The lcm of {} and {} is {}'.format(num1,num2,num1*num2))

else:
    if num1 > num2:
        higher = num1
    else:
```

```
        higher = num2
    value = higher
    while True:
        if (higher%num1==0) and (higher%num2==0):
            print('The lcm of {} and {} is {}'.format(num1,num2,higher))
            break
        else:
            higher = higher + value
```

2:

```
num1 = int(input('Enter first number: '))
num2 = int(input('Enter second number: '))

l = []

for i in range(2,num1-1):
    if num1%i==0:
        break
else:
    l.append(num1)

for i in range(2,num2-1):
    if num2%i==0:
        break
else:
    l.append(num2)

if (num1 in l) and (num2 in l):
```

```
    lcm = num1 * num2

else:
    if num1 > num2:
        higher = num1
    else:
        higher = num2

    value = higher
    while True:
        if (higher%num1==0) and (higher%num2==0):
            lcm = higher
            break
        else:
            higher = higher + value

# since, lcm*hcf = product of two numbers

product_of_two_numbers = num1 * num2
hcf = product_of_two_numbers/lcm
print('The hcf of two numbers {} and {} is {}'.format(num1,num2,int(hcf)))
```

3:

```
num = 59.65625

# decimal to binary conversion
```

```
l1 = []

n = 0

while 2 ** n <= num:
    l1.append(2**n)
    n += 1

l1.sort(reverse=True)

a = 0
str10 = ''
for i in l1:
    if a + i <= num:
        str10 = str10 + '1'
        a = a + i
    else:
        str10 = str10 + '0'

x = num - int(num)
str11 = ''
if x!=0:
    while True:
        x = x * 2
        str11 = str11 + str(int(x))
        if x==1:
            break
        else:
            if int(x)==1:
                x = x - 1
    print('The binary character of number',num,'is: ',str10 + '.' + str11)
```

```
else:
    print('The binary character of number',num,'is: ',str10)



# decimal to octal conversion


s = num
str12 = ''


if (s>1) and (s<8):
    str12 = str12 + str(s)
    print('The octal character of number',num,'is: ',str12[::-1])


else:


    while True:
        s = int(s)/8
        y = s - int(s)
        z = int(y * 8)
        str12 = str12 + str(z)
        if int(s) < 8:
            s = int(s)/8
            y = s - int(s)
            z = int(y * 8)
            str12 = str12 + str(z)
            break


    t = num - int(num)
    str13 = ''
    m = 1
```

```
    if t!=0:
        while m < 6:
            t = t * 8
            str13 = str13 + str(int(t))
            t = t - int(t)
            if t==0:
                break
            else:
                m += 1

        print('The octal character of number',num,'is: ',str12[::-1] + '.' + str13)

    else:
        print('The octal character of number',num,'is: ',str12[::-1])



# decimal to hexadecimal conversion

newstr = '0123456789ABCDEF'
str14 = ''

v = num

while True:
    v = int(v)/16
    e = v - int(v)
    d = int(e * 16)
    str14 = str14 + newstr[d]
    if int(v)==0:
        break
```

```
w = num - int(num)
str15 = ''
new_variable = 1
if w!=0:
   while new_variable < 6:
      w = w * 16
      integer_part = int(w)
      str15 = str15 + newstr[integer_part]
      new_variable += 1
      if w==0:
         break
      else:
         if int(w)>0:
            w = w - int(w)

   print('The hexadecimal character of a decimal number',num,'is: ',str14[::-1] + '.' +str15)

else:
   print('The hexadecimal character of a decimal number',num,'is: ',str14[::-1])
```

4:

```
character = input('Enter any character including special characters like (<,>,@): ')

x = ord(character)

print('The ascii value of character ',character,'is: ',x)
```

5:

```
num1 = int(input('Enter first number: '))
num2 = int(input('Enter second number: '))

while True:
    option = input('Choose an option (A,B,C,D): ')
    if option.upper() in ['A','B','C','D']:
        break

if option.upper()=='A':

    print('The addition of {} and {} is {}'.format(num1,num2,num1+num2))

elif option.upper()=='B':

    print('The subtraction of {} and {} is {}'.format(num1,num2,num1-num2))

elif option.upper()=='C':

    print('The multiplication of {} and {} is {}'.format(num1,num2,num1*num2))

else:
    print('The divison of {} and {} is {}'.format(num1,num2,num1/num2))
```