

M.Syed ul Mursaleen 19B-009-SE SEC-A LAB-4

```
In [4]: #program-1
a = 400
b = 500
if a == 400:
    print("the value of a is equal to 400")
if a < b:
    print("the value of a is less than b")
if a > b:
    print("The value of a is greater than b")
if a != b:
    print("The value of a is not equal to b")
if a <= b:
    print("The value of a is less than or equal to b")
if a >= b:
    ("The value of a is greater than or equal to b")
#part-b
a = 500
b = 400
if a == 400:
    print("the value of a is equal to 400")
if a < b:
    print("the value of a is less than b")
if a > b:
    print("The value of a is greater than b")
if a != b:
    print("The value of a is not equal to b")
if a <= b:
    print("The value of a is less than or equal to b")
if a >= b:
    ("The value of a is greater than or equal to b")
```

the value of a is equal to 400
the value of a is less than b
The value of a is not equal to b
The value of a is less than or equal to b
The value of a is greater than b
The value of a is not equal to b

```
In [5]: #program-2
a = 10
b = 5
c = 20
if a > b and c > a:
    print("Both conditions are True")
```

Both conditions are True

```
In [6]: #program-3
a = 105
b = 50
c = 200
if a > b or a > c:
    print("At least one of the conditions are True")
```

At least one of the conditions are True

```
In [41]: # program-4
#display all prime numbers within interval
l_limit = int(input("Enter lower range: "))
u_limit = int(input("Enter upper limit range "))
print("Prime numbers between",l_limit," and ",u_limit,"are: ")
for number in range(l_limit,u_limit+1):
    if number > 1:
        for i in range(2,number):
            if(number % i) == 0:
                break
        else:
            print(number)
```

Enter lower range: 0
 Enter upper limit range 10
 Prime numbers between 0 and 10 are:
 2
 3
 5
 7

```
In [7]: #program-5
initial_value = eval(input("Enter the initial value for the range: "))
final_value = eval(input("Enter the final value for the range:"))
numbers = range(initial_value,final_value)
Sum = 0

for value in numbers:
    Sum = Sum + value
print("The sum is", Sum)
```

Enter the initial value for the range: 1
 Enter the final value for the range:6
 The sum is 15

```
In [8]: #program-6
row_num = int(input("Input number of rows: "))
col_num = int(input("Input number of columns: "))
multi_list = [[0 for col in range(col_num)] for row in range(row_num)]
for row in range(row_num):
    for col in range(col_num):
        multi_list[row][col] = row * col
print(multi_list)
```

```
Input number of rows: 2
Input number of columns: 2
[[0, 0], [0, 1]]
```

```
In [9]: #program-7
datalist = [300, 212.65, 5+6j, True, 'Faisal', (5,-7), [8,52], {"color":"blue",
"color":"red"}]
for item in datalist:
    print("Type of ",item,"is", type(item))
```

```
Type of 300 is <class 'int'>
Type of 212.65 is <class 'float'>
Type of (5+6j) is <class 'complex'>
Type of True is <class 'bool'>
Type of Faisal is <class 'str'>
Type of (5, -7) is <class 'tuple'>
Type of [8, 52] is <class 'list'>
Type of {'color': 'red'} is <class 'dict'>
```

In [12]: #program-8

```
print("\t\t\t ASCII Character")
for i in range(0,256):
    print(i,"=",chr(i),end ="\t")
print("\n")
```

ASCII Character										
0 =	1 =	2 =	3 =	4 =	5 =	6 =	7 =	8 =	9 =	
10 =										
T	14 = ☁	15 = ☀	16 = +	17 = ◀	18 = ↑	19 = !!	20 = ¶	21 = ⊥	22 =	
▼	23 = †	24 = ↑	25 = †	26 = →	27 = ←	28 = ⊂	29 = ↔	30 = ▲	31 =	
(32 =	33 = !	34 = "	35 = #	36 = \$	37 = %	38 = &	39 = '	40 =	
1	41 =)	42 = *	43 = +	44 = ,	45 = -	46 = .	47 = /	48 = 0	49 =	
:	50 = 2	51 = 3	52 = 4	53 = 5	54 = 6	55 = 7	56 = 8	57 = 9	58 =	
C	59 = ;	60 = <	61 = =	62 = >	63 = ?	64 = @	65 = A	66 = B	67 =	
L	68 = D	69 = E	70 = F	71 = G	72 = H	73 = I	74 = J	75 = K	76 =	
U	77 = M	78 = N	79 = O	80 = P	81 = Q	82 = R	83 = S	84 = T	85 =	
^	86 = V	87 = W	88 = X	89 = Y	90 = Z	91 = [92 = \	93 =]	94 =	
g	95 = _	96 = `	97 = a	98 = b	99 = c	100 = d	101 = e	102 = f	103 =	
p	104 = h	105 = i	106 = j	107 = k	108 = l	109 = m	110 = n	111 = o	112 =	
y	113 = q	114 = r	115 = s	116 = t	117 = u	118 = v	119 = w	120 = x	121 =	
,	122 = z	123 = {	124 =	125 = }	126 = ~	127 =	128 =	129 =	130 =	
<	131 = f	132 = „	133 = ...	134 = †	135 = ‡	136 = ^	137 = %o	138 = Š	139 =	
"	140 = œ		141 =	142 =	143 =	144 =	145 = ‘	146 = ’	147 =	
š	148 = ”	149 =	150 = -	151 = —		152 = ~	153 = ™		154 =	
£	155 = ›	156 = œ	157 =	158 =	159 = Ÿ	160 =	161 = ¡	162 = ¢	163 =	
¬	164 = ª	165 = ¥	166 = ¦	167 = §	168 = “	169 = ®	170 = ª	171 = «	172 =	
µ	173 =	174 = ®	175 = ¯	176 = °	177 = ±	178 = º	179 = º	180 = ´	181 =	
%	182 = ¶	183 = ·	184 = .	185 = ª	186 = º	187 = »	188 = º	189 = º	190 =	
Ç	191 = ¤	192 = À	193 = Á	194 = Â	195 = Ã	196 = Ä	197 = Å	198 = Æ	199 =	
Đ	200 = È	201 = É	202 = Ê	203 = Ë	204 = Ì	205 = Í	206 = Î	207 = Ï	208 =	
Ù	209 = Ñ	210 = Ò	211 = Ó	212 = Õ	213 = Õ	214 = Ö	215 = ×	216 = Ø	217 =	
â	218 = Ú	219 = Û	220 = Ü	221 = Ý	222 = þ	223 = ß	224 = à	225 = á	226 =	
ë	227 = ã	228 = ä	229 = å	230 = æ	231 = ç	232 = è	233 = é	234 = ê	235 =	
ô	236 = ì	237 = í	238 = î	239 = ï	240 = ð	241 = ñ	242 = ò	243 = ó	244 =	
ý	245 = õ	246 = ö	247 = ÷	248 = ø	249 = ù	250 = ú	251 = û	252 = ü	253 =	
	254 = þ	255 = ÿ								

```
In [17]: #program-9
print("Python program to convert decimal number into binary, octal and hexadecim
      al number system")
for i in range(0,17):
    print("The decimal value of ",i," in binary is:",bin(i),"in octal is:",oct
          (i),"and in Hexadecimal is: ",hex(i))
```

Python program to convert decimal number into binary, octal and hexadecimal n
umber system

The decimal value of 0 in binary is: 0b0 in octal is: 0o0 and in Hexadecima
l is: 0x0

The decimal value of 1 in binary is: 0b1 in octal is: 0o1 and in Hexadecima
l is: 0x1

The decimal value of 2 in binary is: 0b10 in octal is: 0o2 and in Hexadecim
al is: 0x2

The decimal value of 3 in binary is: 0b11 in octal is: 0o3 and in Hexadecim
al is: 0x3

The decimal value of 4 in binary is: 0b100 in octal is: 0o4 and in Hexadeci
mal is: 0x4

The decimal value of 5 in binary is: 0b101 in octal is: 0o5 and in Hexadeci
mal is: 0x5

The decimal value of 6 in binary is: 0b110 in octal is: 0o6 and in Hexadeci
mal is: 0x6

The decimal value of 7 in binary is: 0b111 in octal is: 0o7 and in Hexadeci
mal is: 0x7

The decimal value of 8 in binary is: 0b1000 in octal is: 0o10 and in Hexade
cimal is: 0x8

The decimal value of 9 in binary is: 0b1001 in octal is: 0o11 and in Hexade
cimal is: 0x9

The decimal value of 10 in binary is: 0b1010 in octal is: 0o12 and in Hexad
ecimal is: 0xa

The decimal value of 11 in binary is: 0b1011 in octal is: 0o13 and in Hexad
ecimal is: 0xb

The decimal value of 12 in binary is: 0b1100 in octal is: 0o14 and in Hexad
ecimal is: 0xc

The decimal value of 13 in binary is: 0b1101 in octal is: 0o15 and in Hexad
ecimal is: 0xd

The decimal value of 14 in binary is: 0b1110 in octal is: 0o16 and in Hexad
ecimal is: 0xe

The decimal value of 15 in binary is: 0b1111 in octal is: 0o17 and in Hexad
ecimal is: 0xf

The decimal value of 16 in binary is: 0b10000 in octal is: 0o20 and in Hexa
decimal is: 0x10

```
In [38]: #program-10
n = 5
for i in range(n):
    for j in range(i):
        print("*",end = "")
    print("")

for i in range(n,0,-1):
    for j in range(i):
        print("*",end = "")
    print("")
```

```
*
```

```
**
```

```
***
```

```
****
```

```
*****
```

```
***
```

```
**
```

```
*
```

```
In [39]: #program-11
print("This program will count total number of vowels from user defined sentence")
string = input("Enter your string: ")
vowels = 0
for i in string:
    if(i=="a" or i == "e" or i=="i" or i=="o" or i=="u"):
        vowels = vowels + 1
print("Number of vowels are:")
print(vowels)
```

```
This program will count total number of vowels from user defined sentence
Enter your string: Mursaleen
Number of vowels are:
4
```