1) What is the value of x ¶

In [1]:

```
x = 0
while (x < 100):
  x+=2
print(x)
```

```
100
```

Ans: d)100

2)Using while loop accept numbers until the sum of number is less than 100.

In [13]:

```
sum=0
diff=0

while sum<100:
    i=int(input("enter the number"))
    diff=100-sum;
    if diff<0:
        break;
    else:
        sum=sum+i;


print(sum)
```

```
enter the number25
enter the number25
enter the number25
enter the number25
100
```

3) Take 10 integers from keyboard using loop and print their average value on the screen

In [18]:

```
# denotes total sum of ten numbers
total_sum = 0

for n in range (10):
    # take inputs
    num = float(input('Enter number: '))
    # calculate total sum of numbers
    total_sum += num

# calculate average of numbers
avg = total_sum / 10

# print average value
print('Average of numbers = %0.2f' %avg)
```

```
Enter number: 65
Enter number: 21
Enter number: 26
Enter number: 03
Enter number: 02
Enter number: 04
Enter number: 96
Enter number: 78
Enter number: 58
Enter number: 95
Average of numbers = 44.80
```

4) Print the following patterns using loop :

In [30]:

```
rows = 4
for i in range(0, rows):
    # nested loop for each column
    for j in range(0, i + 1):
        # print star
        print("*", end=' ')
    # new line after each row
    print("\r")
```

```
*
* *
* * *
* * * *
```

In [28]:

```
rows = 3
k = 2 * rows - 2
for i in range(0, rows):
    for j in range(0, k):
        print(end=" ")
    k = k - 1
    for j in range(0, i + 1):
        print("* ", end="")
    print("")

k = rows - 2

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

```
    *
   * *
  * * *
 * * * *
  * * *
   * *
    *
```

In [36]:

```
p = input("first value : ")
q = input("second value : ")
j = 0
k = int(input("rows you want? : "))
while k >= 1:
    print(" "*j + (k-1)*(p+q) +p+ " "*j)
    k = k-1
    j=j+1
```

```
first value : 1
second value : 0
rows you want? : 4
1010101
 10101
  101
   1
```

5) Print multiplication table of given number

For example num = 2 so the output should be

In [42]:

```
num = int(input("Enter the number: "))

print("Multiplication Table of", num)
for i in range(1, 11):
   print(num * i)
```

```
Enter the number: 5
Multiplication Table of 5
5
10
15
20
25
30
35
40
45
50
```

6) Given a list iterate it and display numbers which are divisible by 5 and if you find number greater than 150 stop the loop iteration

list1 = [12, 15, 32, 42, 55, 75, 122, 132, 150, 180, 200]

In [45]:

```
y = [12, 15, 32, 42, 55, 75, 122, 132, 150, 180, 200]
for x in y:
    if (x % 5 == 0):
            print(x)
```

```
15
55
75
150
180
200
```

7)Given a number count the total number of digits in a number

For example, the number is 75869, so the output should be 5.

In [47]:

```
def Counting(Number):
    Count = 0
    while(Number > 0):
        Number = Number // 10
        Count = Count + 1
    return Count

Number = int(input("the number is: "))
Count = Counting(Number)
print("\n Number of Digits in a Given Number = %d" %Count)
```

```
the number is: 123456

 Number of Digits in a Given Number = 6
```

8)Display -10 to -1 using for loop

In [49]:

```
for num in range (-10, 0):
    print(num)
```

```
-10
-9
-8
-7
-6
-5
-4
-3
-2
-1
```

9) Display a message “Done” after successful execution of for loop

In [51]:

```
for i in range(5):
    print(i)
else:
    print("Done!")
```

```
0
1
2
3
4
Done!
```

10) Print the following pattern using nested for loop

Expected output

In [53]:

```
rows = 5
for i in range(0, rows + 1):
    for j in range(rows - i, 0, -1):
        print(j, end=' ')
    print()
```

```
5 4 3 2 1
4 3 2 1
3 2 1
2 1
1
```