Basics of Programming in Python

Interruptions

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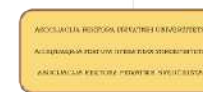
Example 37

What is printed on the screen after executing the following program codes:

a) program code   test program

```
1 #Zadatak 37a
2
3 for i in range(1,11,1):
4     if(i==5):
5         break
6     print("i =",i)
```

```
i = 1
i = 2
i = 3
i = 4
>>>
```

b) program code   test program

```
1 #Zadatak 37b
2
3 for i in range(1,6,1):
4     for j in range(1,11,1):
5         if(j==3):
6             break
7         print("i =",i,"   j =",j)
```

```
i = 1     j = 1
i = 1     j = 2
i = 2     j = 1
i = 2     j = 2
i = 3     j = 1
i = 3     j = 2
i = 4     j = 1
i = 4     j = 2
i = 5     j = 1
i = 5     j = 2
>>>
```

Example 38

Compose a program that adds whole numbers from 1 to 1000. Stop the addition when the sum becomes equal to or greater than the given value x. Write the value of the sum and the number of additions.

program code

```
1  #Zadatak 38
2
3  x=int(input("x= "))
4  s=0
5  for i in range(1,1000,1):
6      s=s+i
7      if(s>x):
8          break
9  print("S =",s)
10 print("Broj sabiraka =",i)
```

test program

```
x= 211
S = 231
Broj sabiraka = 21
>>>
========== RESTART:
x= 5
S = 6
Broj sabiraka = 3
>>>
```

Example 39

Compose a program that will load positive integers and print their squares until it reads a negative number.

program code

```
1 #Zadatak 39
2
3 while(True):
4     i=int(input("\ni= "))
5     if(i<0):
6         break
7     print("i*i=",i*i)
```

test program

```
i= 6
i*i= 36

i= 7
i*i= 49

i= 0
i*i= 0

i= -2
>>>
```

Example 40

Compose a program that will print the first number (if any) that is less than 500 and divisible by 3, 4 and 5.

program code

test program

```
1  #Zadatak 40
2
3  for i in range(1,501,1):
4      if(i%3==0 and i%4==0 and i%5==0):
5          print(i)
6          break
```

```
60
>>>
```

Example 41

What is printed on the screen after executing the following program code:

a) program code   test program

```
1 #Zadatak 41a
2
3 for i in range(1,11,1):
4     if(i==5):
5         continue
6     print("i=",i)
```

```
i= 1
i= 2
i= 3
i= 4
i= 6
i= 7
i= 8
i= 9
i= 10
>>>
```

b) program code   test program

```
1 #Zadatak 41b
2
3 for i in range(1,5,1):
4     for j in range(1,5,1):
5         if(j==3):
6             continue
7         print("i=",i," j=",j)
```

```
i= 1    j= 1
i= 1    j= 2
i= 1    j= 4
i= 2    j= 1
i= 2    j= 2
i= 2    j= 4
i= 3    j= 1
i= 3    j= 2
i= 3    j= 4
i= 4    j= 1
i= 4    j= 2
i= 4    j= 4
>>>
```

Example 42

Compose a program using the continue statement that will print the even
numbers of the first ten.

program code

```
1 #Zadatak 42
2
3 for i in range(1,11,1):
4     if(i%2)!=0: continue
5     print(i)
```

test program

```
2
4
6
8
10
>>>
```

Example 43

Compose a program that prints all numbers less than 100 that are not divisible by 2, 3 and 5.

program code   test program

```
1  #Zadatak 43
2
3  for i in range(1,101,1):
4      if(i%2)==0:  continue
5      if(i%3)==0:  continue
6      if(i%5)==0:  continue
7      print(i)
```

```
1
7
11
13
17
19
23
29
31
37
41
43
47
49
53
59
61
67
71
73
77
79
83
89
91
97
>>>
```

Example 44

Compose a program to calculate the sum of natural numbers from 1 to n, excluding a user-defined number divisible by x.

program code

```
1  #Zadatak 44
2
3  n=int(input("n= "))
4  x=int(input("x= "))
5  s=0
6  for i in range(1,n+1,1):
7      if(i%x)==0: continue
8      s=s+i
9  print("s=",s)
```

test program

```
n= 7
x= 2
s= 16
>>>
=======
n= 41
x= 3
s= 588
>>>
```

Example 45

Compose a program that calculates the square of n. If the user enters a real number or character, request re-entry.

program code

test program

```
1  #Zadatak 45
2
3  while(True):
4      n=input("n= ")
5      try:
6          n=int(n)
7          break
8      except:
9          print("Pogresna vrednost! Ponovite unos!")
10         continue
11 kvadrat=n*n
12 print("n*n=", kvadrat)
```

```
n= 2.5
Pogresna vrednost! Ponovite unos!
n= w
Pogresna vrednost! Ponovite unos!
n= 6
n*n= 36
>>>
```

Questions & Answers