X

Unit 7 - Week 5

Assignment 5

The due date for submitting this assignment has passed.

Due on 2020-03-04, 23:59 IST.

Assignment submitted on 2020-03-04, 23:50 IST

1) What does the following code do? ***1 point***

```
import random
def get_gates():
    r=random.randint(0,2)
    r1=random.randint(0,2)
    while(r==r1):
        r=random.randint(0,2)
    l=['x','x','x']
    l[r]='c'
    l[r1]='c'
    ind=[0,1,2]
    for each in ind:
        if(each!=r1 and each!=r):
            l[each]='g'
    print(l)

get_gates()
```

- (selected) creates a list where two random elements are ‘c’ and the other element is ‘g’
- creates a list where two random elements are ‘g’ and the other element is ‘c’

- creates a list where one random elements is ‘c’ and the other element is ‘g’
- none of the above

Yes, the answer is correct.
Score: 1

Accepted Answers:
creates a list where two random elements are ‘c’ and the other element is ‘g’

2) Which of the random experiments from the options does the code represent? ***1 point***

```
import random
while(1):
    r=random.randint(0,1)
    if(r==0):
        print('tossing')
        break
    else:
        print('tossing')
```

- Tossing a coin once
- Tossing a coin infinite times
- Tossing a coin repeatedly till a head in encountered
- none of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
none of the above

3) Which of the random experiments from the options does the code represent? ***1 point***

```
import random
p1=["rock","paper","scissor"]
p2=["rock","paper","scissor"]
c1=random.choice(p1)
c2=random.choice(p2)
if(c1==c2):
    print("SUCCESS")
else:
    print("FAIL")
```

- Prints a success when both people select the same object
- Prints a success when both people select “rock”
- Prints a success when both people select different objects
- None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
Prints a success when both people select the same object

4) For the code below, which of the statement in the options is false? ***1 point***

```
t =[]
for i in range(10):
  a=int(input("Enter the number you want to insert in the list"))
  if(len(t)==0):
    t.append(a)
  else:
    if(a>t[len(t)-1]):
      t.append(a)
print(t)
```

- The loop runs exactly 10 times
- All the integers taken as input from the user need not be in the list l
- The list l consists of exactly 10 elements at the end of the program
- The list l printed in the last line is a sorted list

Yes, the answer is correct.
Score: 1
Accepted Answers:
The list l consists of exactly 10 elements at the end of the program

5) Which of the random experiments from the options does the code represent? ***1 point***

```
import random
bins={}
for i in range(1,11):
  bins[i]=0
for i in range(1,101):
  r = random.randint(1,10)
  bins[r]=bins[r]+1
print(bins)
```

- Placing 100 bins and then throwing 10 balls randomly in these bins
- Placing 10 bins and then throwing 100 balls randomly in these bins
- Placing 10 bins and 10 balls and then throwing 10 balls randomly in these bins
- None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
Placing 10 bins and then throwing 100 balls randomly in these bins

6) Assuming that “bins” represents a dictionary where key is the number of a bin and value represents the number of balls present in the corresponding bin, what is the output of the following code? ***1 point***

```
min_=0
min_i=-1
for each in bins:
  if(bins[each]>min_):
    min_i=each
    min_=bins[each]
print(min_i)
```

- Displays the maximum number of balls present in any bin

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- Displays the number of the bin containing maximum balls
- Displays the number of the bin containing minimum balls
- None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
Displays the number of the bin containing maximum balls

7) Assuming that "bins" represents a dictionary where key is the number of a bin and value represents the number of balls present in the corresponding bin, what is the output of the following code? ***1 point***

```
def mbin():
    max_=0
    max_i=-1
    for each in bins:
        if(bins[each]>max_):
            max_i=each
            max_=bins[each]
    print(max_i)
    return max_i

while(len(bins)>0):
    b=mbin()
    del(bins[b])
```

- Displays the maximum number of balls present in any bin
- Displays bins in the ascending order of the number of balls they have
- Displays bins in the descending order of the number of balls they have
- None of the above

No, the answer is incorrect.
Score: 0
Accepted Answers:
Displays bins in the descending order of the number of balls they have

8) ***1 point***

```
def find(list1,num):
    for each in list1:
        if(each!=num):
            print(each)
        else:
            break

t=[]
for i in range(100000):
    t.append(i)

find(t,99999)
```

The above code generates numbers from

- 0 to 99999

- 0 to 100000
- 0 to 99998
- 1 to 99998

Yes, the answer is correct.
Score: 1
Accepted Answers:
0 to 99998

9) Which of the random experiments from the options does the code represent? ***1 point***

```
import random
while(1):
    r=random.randint(1,6)
    if(r%2==0):
        print('rolling')
        break
    else:
        print('rolling')
```

- Rolling a dice once
- Rolling a dice infinite times
- Rolling a dice repeatedly till an odd number is encountered
- Rolling a dice repeatedly till an even number is encountered

No, the answer is incorrect.
Score: 0
Accepted Answers:
Rolling a dice repeatedly till an even number is encountered

10) Assuming that "bins" represents a dictionary where key is the number of a bin and value represents the number of balls present in the corresponding bin, what plot does the following code generate? ***1 point***

```
import matplotlib.pyplot as plt
val=bins.values()
x=[]
y=[]
print(val)
for each in list(set(val)):
    x.append(each)
    y.append(val.count(each))
    print(each,val.count(each))
plt.plot(x,y)
plt.show()
```

- X axis: Number of balls, Y axis: Number of bins having as many balls as specified by X axis
- X axis: Bin number, Y axis: Number of balls in the bin whose number is specified by X axis
- X axis: Ball number, Y axis: The bin number which contained the ball whose number is specified by the X axis
- None of the above

No, the answer is incorrect.
Score: 0

Accepted Answers:
None of the above