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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, 00:36 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

Yes, the answer is correct.
Score: 1
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

Yes, the answer is correct.
Score: 1
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
- Displays the number of the bin containing maximum balls

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Displays the number of the bin containing minimum balls

None of the above

Yes, the answer is correct.
Score: 1

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

Yes, the answer is correct.
Score: 1

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

Yes, the answer is correct.
Score: 1

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

Yes, the answer is correct.
Score: 1

Accepted Answers:
None of the above