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Unit 8 - Week 6

Course outline

How does an NPTEL online course work?

Week 0

Week 1

Week 2

Week 3

week 4

Week 5

Week 6

☐ Substitution Cipher -The science of secrecy (unit? unit=103&lesson=104)

☐ Substitution Cipher -The science of secrecy 01 (unit? unit=103&lesson=105)

☒ Substitution Cipher -The

Assignment 6

The due date for submitting this assignment has passed. Due on 2020-03-11, 23:59 IST.

Assignment submitted on 2020-03-09, 15:33 IST

1) Give that the statement `chr(ord(alpha) + i)` returns the character(alphabet or a special character) at the location `i` ahead than the alphabet `alpha`, eg, `chr(ord('a')+1)` returns 'b'; what is the output of the following code?

1 point

```

1 def encrypt(ltr, key):
2     l=[]
3     for each in list(ltr):
4         l.append(chr(ord(each) + 1))
5     return "".join(l)
6
7 letter_body="ABCDEFGH"
8 d=encrypt(letter_body,4)
9 print(d)

```

- ☐ ABCDEFGH
☒ BCDEFGHI
☐ EFGHIJKL
☐ none of the above

Yes, the answer is correct.
Score: 1

Accepted Answers:
BCDEFGHI

2) What does the following code do?

1 point

science of
secrecy 02
(unit?
unit=103&lesson=106)

☐ Substitution
Cipher -The
science of
secrecy 03
(unit?
unit=103&lesson=107)

☐ Tic Tac Toe -
Down the
memory Lane
(unit?
unit=103&lesson=108)

☐ Tic Tac Toe -
Down the
memory Lane
01 (unit?
unit=103&lesson=109)

☐ Tic Tac Toe -
Down the
memory Lane
02 (unit?
unit=103&lesson=110)

☐ Tic Tac Toe -
Down the
memory Lane
03 (unit?
unit=103&lesson=111)

☐ Tic Tac Toe -
Down the
memory Lane
04 (unit?
unit=103&lesson=112)

☐ Tic Tac Toe -
Down the
memory Lane
05 (unit?
unit=103&lesson=113)

☐ Recursion (unit?
unit=103&lesson=114)

☐ Recursion 01
(unit?
unit=103&lesson=115)

☐ Recursion 02
(unit?
unit=103&lesson=116)

☐ Recursion 03
(unit?
unit=103&lesson=117)

☐ Recursion 04
(unit?
unit=103&lesson=118)

```
1 def guess(num):
2     a=input("Guess a number")
3     if (a==num):
4         print("SUCCESS")
5     else:
6         guess(num)
7
8 guess(10)
```

- ☐ Keeps asking the user to guess a number until the user guesses 10
- ☐ The computer generates a random number r and keeps it. The user is repeatedly prompted to enter a number. If the user enters r, the code says success and ends, else the prompting is continued.
- ☒ Enters an infinite loop
- ☐ The computer generates a random number r and keeps it. The user is repeatedly prompted to enter a number. If the user enters r, the code says success and ends, else the computer generates a new random number r and thereafter the prompting is continued.

Yes, the answer is correct.

Score: 1

Accepted Answers:

Enters an infinite loop

3) What does the following code do?

1 point

```
1 import random
2 def guess(num):
3     a=int(input("Guess a number from 1 to 100"))
4     print(a,num)
5     if (a==num):
6         print("SUCCESS")
7     else:
8         guess(random.randint(1,100))
9
10 i=guess(random.randint(1,100))
```

- ☐ Keeps asking the user to guess a number until the user guesses 10
- ☐ The computer generates a random number r and keeps it. The user is repeatedly prompted to enter a number. If the user enters r, the code says success and ends, else the prompting is continued.
- ☐ Enters an infinite loop
- ☒ The computer generates a random number r and keeps it. The user is repeatedly prompted to enter a number. If the user enters r, the code says success and ends, else the computer generates a new random number r and thereafter the prompting is continued.

Yes, the answer is correct.

Score: 1

Accepted Answers:

The computer generates a random number r and keeps it. The user is repeatedly prompted to enter a number. If the user enters r, the code says success and ends, else the computer generates a new random number r and thereafter the prompting is continued.

4) With n as input, the code below computes

1 point

☐ Recursion 05
(unit?
unit=103&lesson=119)

☐ Recursion 06
(unit?
unit=103&lesson=120)

☒ **Quiz :**
Assignment 6
(assessment?
name=276)

☒ Programming
Assignment-1:
Computing
Paradox
(/noc20_cs35/progassignment?
name=295)

☒ Programming
Assignment-2:
Dictionary
(/noc20_cs35/progassignment?
name=296)

☒ Programming
Assignment-3:
Functions
(/noc20_cs35/progassignment?
name=297)

☐ Week 6
Feedback (unit?
unit=103&lesson=298)

Week 7

Week 8

Week 9

Week 10

Week 11

Week 12

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```
1 def mul(num):
2     if (num==1):
3         return (-1)
4     return (-1*mul(num-1))
5
6 n=int(input("Enter the value of n"))
7 print(mul(n))
```

☐ $-1 \times n$

☐ $-1 + n$

☒ $(-1)^n$

☐ $n^{(-1)}$

Yes, the answer is correct.

Score: 1

Accepted Answers:

$(-1)^n$

5) The following code

1 point

```
1 import random
2 def search(l, loc, item):
3     if (loc < 0):
4         loc = 0
5     if (l[loc] == item):
6         print("Found", item, "at index", loc)
7         return
8     if (loc == len(l) - 1):
9         print("Element not present")
10        return (0)
11    else:
12        return (search(l, loc+1, item))
13
14 l = [1, 2, 3, 4, 5, 6, 7, 8, 9]
15 search(l, -11, 3)
```

☐ displays an error

☐ does not display an error but might display the error if we change the middle value passed in the function search() from 0 to some negative value.

☐ Can return a negative value in some cases when we change the values passed to the function search()

☒ Scans the list from first to the last element and displays the index of the value passed in the last number in the function search().

Yes, the answer is correct.

Score: 1

Accepted Answers:

Scans the list from first to the last element and displays the index of the value passed in the last number in the function search().

6) The following code represents

1 point

```

1 import random
2 def search(l, loc, item):
3     if (loc < 0):
4         loc = 0
5     if (l[loc] == item):
6         print("Found", item, "at index", loc)
7         return
8     if (loc == len(l) - 1):
9         print("Element not present")
10        return (0)
11    else:
12        return (search(l, loc + 1, item))
13
14 l = [1, 2, 3, 4, 5, 6, 7, 8, 9]
15 search(l, -11, 3)

```

- ☒ recursive algorithm for linear search an element in a list
☐ recursive algorithm for binary search an element in a list
☐ non-recursive algorithm for linear search an element in a list
☐ none of the above

Yes, the answer is correct.

Score: 1

Accepted Answers:

recursive algorithm for linear search an element in a list

7) What is the output of `print(int(3.79)+int(2.1))`?

1 point

- ☐ 6
☒ 5
☐ 7
☐ 4

Yes, the answer is correct.

Score: 1

Accepted Answers:

5

8) The following code to its best, represents a scenario

1 point

```

1 def func(i):
2     print(i)
3     if (i == 0):
4         print("OVER")
5     else:
6         func(i / 2)

```

- ☒ A cake getting eaten by half of its current amount every time
☐ A student attempting alternate questions, starting from a given question
☐ Viruses doubling inside a body and killing the person once their population becomes 128 or more.
☐ Metro train serving 128 stations to and fro

Yes, the answer is correct.

Score: 1

Accepted Answers:

A cake getting eaten by half of its current amount every time

9) The following code to its best, represents a scenario

1 point

```

1 def func(i):
2     print(i)
3     if (i>128):
4         print("OVER")
5     else:
6         func(2*i)

```

- ☐ A cake getting eaten by half of its current amount every time
- ☐ A student attempting alternate questions, starting from a given question
- ☒ Viruses doubling inside a body and killing the person once their population becomes 128 or more.
- ☐ Metro train serving 128 stations to and fro

Yes, the answer is correct.

Score: 1

Accepted Answers:

Viruses doubling inside a body and killing the person once their population becomes 128 or more.

10) The following code to its best, represents a scenario

1 point

```

1 def func(i, f):
2     print(i)
3     if (i==0):
4         f=1
5         func(i+1, f)
6     if (i==128):
7         f=-1
8         func(i-1, f)
9     if (f==1):
10        func(i+1, f)
11    if (f==-1):
12        func(i-1, f)

```

- ☐ A cake getting eaten by half of its current amount every time
- ☐ A student attempting alternate questions, starting from a given question
- ☐ Viruses doubling inside a body and killing the person once their population becomes 128 or more.
- ☒ Metro train serving 128 stations to and fro

Yes, the answer is correct.

Score: 1

Accepted Answers:

Metro train serving 128 stations to and fro

