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Q&A

Exam : **98-381**

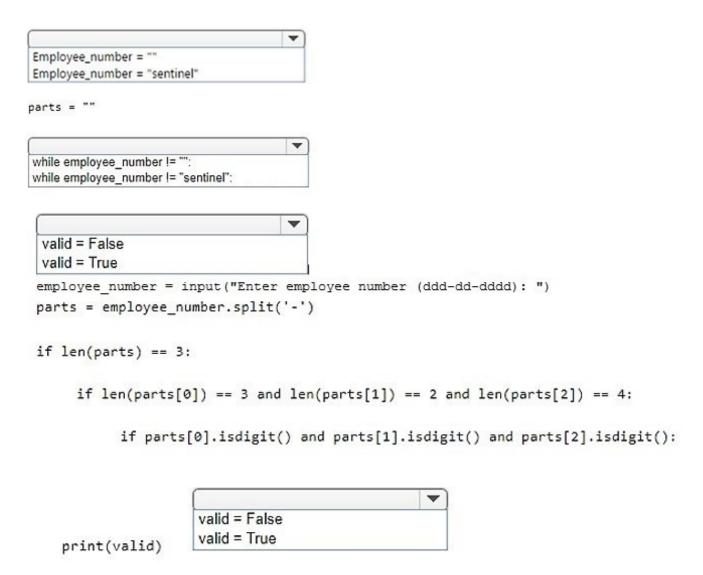**Title** : Introduction to Programming Using Python

Version : DEMO

1.HOTSPOT

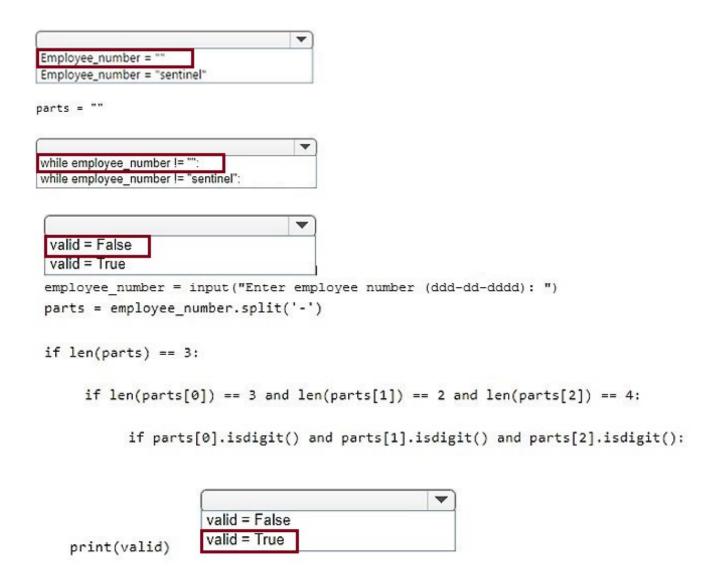You are writing a Python program to validate employee numbers.

The employee number must have the format ddd-dd-dddd and consist only of numbers and dashes. The program must print True if the format is correct and print False if the format is incorrect.

How should you complete the code? To answer, select the appropriate code segments in the answer area.

Answer Area

```
Employee_number = ""
Employee_number = "sentinel"
```

```
parts = ""
```

```
while employee_number != "":
while employee_number != "sentinel":
```

```
valid = False
valid = True
```

```
employee_number = input("Enter employee number (ddd-dd-dddd): ")
parts = employee_number.split('-')

if len(parts) == 3:

    if len(parts[0]) == 3 and len(parts[1]) == 2 and len(parts[2]) == 4:

        if parts[0].isdigit() and parts[1].isdigit() and parts[2].isdigit():
```

```
valid = False
valid = True
```

```
print(valid)
```

Answer:

Answer Area

```
┌─────────────────────────────────────────── ▼ ┐
│ Employee_number = ""                          │
│ Employee_number = "sentinel"                  │
└───────────────────────────────────────────────┘

parts = ""

┌─────────────────────────────────────────── ▼ ┐
│ while employee_number != "":                  │
│ while employee_number != "sentinel":          │
└───────────────────────────────────────────────┘

    ┌─────────────────────────────────────── ▼ ┐
    │ valid = False                             │
    │ valid = True                              │
    └───────────────────────────────────────────┘

    employee_number = input("Enter employee number (ddd-dd-dddd): ")
    parts = employee_number.split('-')

    if len(parts) == 3:

        if len(parts[0]) == 3 and len(parts[1]) == 2 and len(parts[2]) == 4:

            if parts[0].isdigit() and parts[1].isdigit() and parts[2].isdigit():

                            ┌───────────────────────── ▼ ┐
                            │ valid = False               │
                            │ valid = True                │
    print(valid)            └─────────────────────────────┘
```

2.HOTSPOT

You are coding a math utility by using Python.

You are writing a function to compute roots.

The function must meet the following requirements:

If a is non-negative, return a**(1/b)
If a is negative and even, return "Result is an imaginary number"
If a is negative and odd, return -(-a)**(1/b)

How should you complete the code? To answer, select the appropriate code segments in the answer area.

Answer Area

```
def safe_root(a, b):
```

▼
if a >= 0:
if a % 2 == 0:
else:
elif:

```
        answer = a**(1/b)
```

▼
if a >= 0:
if a % 2 == 0:
else:
elif:

▼
if a >= 0:
if a % 2 == 0:
else:
elif:

```
    answer = "Result is an imaginary number"
```

▼
if a >= 0:
if a % 2 == 0:
else:
elif:

```
        answer = -(-a)**(1/b)

    return answer
```

Answer:

Answer Area

```
def safe_root(a, b):
```

▼

```
if a >= 0:
if a % 2 == 0:
else:
elif:
```

(*if a >= 0:* is circled)

```
        answer = a**(1/b)
```

▼

```
if a >= 0:
if a % 2 == 0:
else:
elif:
```

(*else:* is circled)

▼

```
if a >= 0:
if a % 2 == 0:
else:
elif:
```

(*if a % 2 == 0:* is circled)

```
            answer = "Result is an imaginary number"
```

▼

```
if a >= 0:
if a % 2 == 0:
else:
elif:
```

(*else:* is circled)

```
    return answer
```

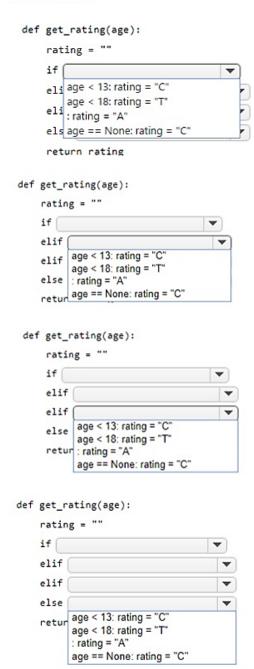Explanation: https://www.w3resource.com/python/python-if-else-statements.php

3. HOTSPOT

You work for a company that distributes media for all ages.

You are writing a function that assigns a rating based on a user's age. The function must meet the following requirements:

• Anyone 18 years old or older receives a rating of "A"
• Anyone 13 or older, but younger than 18, receives a rating of "T"
• Anyone 12 years old or younger receives a rating of "C"
• If the age is unknown, the rating is set to "C"

You need to complete the code to meet the requirements.

Answer Area

```
def get_rating(age):
    rating = ""
    if [                    ▼]
    eli │ age < 13: rating = "C" │
        │ age < 18: rating = "T" │
    eli │ : rating = "A"         │
    els │ age == None: rating = "C" │
    return rating
```

```
def get_rating(age):
    rating = ""
    if [                 ▼]
    elif [               ▼]
    elif │ age < 13: rating = "C" │
    else │ age < 18: rating = "T" │
         │ : rating = "A"         │
    retur│ age == None: rating = "C" │
```

```
def get_rating(age):
    rating = ""
    if [              ▼]
    elif [            ▼]
    elif [            ▼]
    else │ age < 13: rating = "C" │
         │ age < 18: rating = "T" │
    retur│ : rating = "A"         │
         │ age == None: rating = "C" │
```

```
def get_rating(age):
    rating = ""
    if [              ▼]
    elif [            ▼]
    elif [            ▼]
    else [            ▼]
    retur│ age < 13: rating = "C" │
         │ age < 18: rating = "T" │
         │ : rating = "A"         │
         │ age == None: rating = "C" │
```

Answer:

Answer Area

```
def get_rating(age):
    rating = ""
    if [                                ▼ ]
    eli | age < 13: rating = "C"        ▼ |
    eli | age < 18: rating = "T"        ▼ |
        | : rating = "A"                ▼ |
    els | age == None: rating = "C"     ▼ |
    return rating
```

```
def get_rating(age):
    rating = ""
    if [                            ▼ ]
    elif [                          ▼ ]
    elif | age < 13: rating = "C"        |
         | age < 18: rating = "T"        |
    else | : rating = "A"                |
    retur| age == None: rating = "C"     |
```

```
def get_rating(age):
    rating = ""
    if [                        ▼ ]
    elif [                      ▼ ]
    elif [                      ▼ ]
    else | age < 13: rating = "C" |
         | age < 18: rating = "T" |
    retur| : rating = "A"         |
         | age == None: rating = "C" |
```

```
def get_rating(age):
    rating = ""
    if [                    ▼ ]
    elif [                  ▼ ]
    elif [                  ▼ ]
    else [                  ▼ ]
    retur| age < 13: rating = "C" |
         | age < 18: rating = "T" |
         | : rating = "A"         |
         | age == None: rating = "C" |
```

Explanation: https://www.w3resource.com/python/python-if-else-statements.php

4.HOTSPOT

You are designing a decision structure to convert a student's numeric grade to a letter grade. The program must assign a letter grade as specified in the following table:

Percentage range	Letter grade
90 through 100	A
80 through 89	B
70 through 79	C
65 through 69	D
0 through 64	F

For example, if the user enters a 90, the output should be, "Your letter grade is A". Likewise, if a user enters an 89, the output should be "Your letter grade is B".

How should you complete the code? To answer, select the appropriate code segments in the answer area.

Answer Area

```
#Letter Grade Converter


grade = int(input("Enter a numeric grade"))
```

▼
if grade <= 90:
if grade >= 90:
elif grade > 90:
elif grade >= 90:

```
        letter_grade = 'A'
```

▼
if grade > 80:
if grade >= 80:
elif grade > 80:
elif grade >= 80:

```
        letter_grade = 'B'
```

▼
if grade > 70:
if grade >= 70:
elif grade > 70:
elif grade >= 70:

▼

```
        letter_grade = 'C'
```

▼
if grade > 65:
if grade >= 65:
elif grade > 65:
elif grade >= 65:

```
        letter_grade = 'D'
  else:
        letter_grade = 'F'
```

Answer:

Answer Area

```
#Letter Grade Converter

grade = int(input("Enter a numeric grade"))
```

```
    ┌────────────────────────────────────────────▼──┐
    │ if grade <= 90:                                │
    │ (if grade >= 90:)                              │
    │ elif grade > 90:                               │
    │ elif grade >= 90:                              │
    └────────────────────────────────────────────────┘

        letter_grade = 'A'
    ┌────────────────────────────────────────────▼──┐
    │ if grade > 80:                                 │
    │ if grade >= 80:                                │
    │ elif grade > 80:                               │
    │ (elif grade >= 80:)                            │
    └────────────────────────────────────────────────┘

        letter_grade = 'B'
    ┌────────────────────────────────────────────▼──┐
    │ if grade > 70:                                 │
    │ if grade >= 70:                                │
    │ elif grade > 70:                               │
    │ (elif grade >= 70:)                            │
    └────────────────────────────────────────────────┘

    ┌────────────────────────────────────────────▼──┐
    └────────────────────────────────────────────────┘
        letter_grade = 'C'
    ┌────────────────────────────────────────────▼──┐
    │ if grade > 65:                                 │
    │ if grade >= 65:                                │
    │ elif grade > 65:                               │
    │ (elif grade >= 65:)                            │
    └────────────────────────────────────────────────┘

            letter_grade = 'D'
    else:
            letter_grade = 'F'
```

Explanation: https://www.w3resource.com/python/python-if-else-statements.php
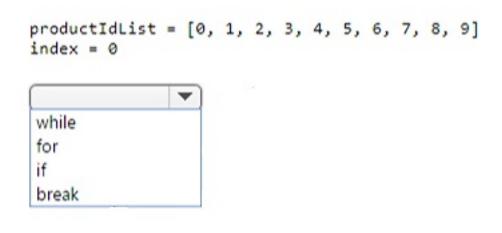
5.HOTSPOT
You are developing a Python application for an online product distribution company.
You need the program to iterate through a list of products and escape when a target product ID is found.
How should you complete the code? To answer, select the appropriate code segments in the answer area.

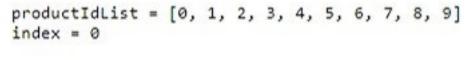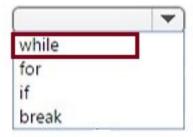NOTE: Each correct selection is worth one point.

Answer Area

```
productIdList = [0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
index = 0
```

```
┌──────────────────────┬───┐
│                      │ ▼ │
├──────────────────────┴───┤
│ while                    │
│ for                      │
│ if                       │
│ break                    │
└──────────────────────────┘
```

```
        print(productIdList[index])

        if productIdList[index] == 6 :
```

```
              ┌──────────────────────┬───┐
              │                      │ ▼ │
              ├──────────────────────┴───┤
              │ while                    │
        else  │ for                      │
              │ if                       │
              │ break                    │
              └──────────────────────────┘
```

Answer:

Answer Area

```
productIdList = [0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
index = 0
```

```
┌──────────────────┬───▼─┐
│ while            │     │
├──────────────────┘     │
│ for                    │
│ if                     │
│ break                  │
└────────────────────────┘
```

```
    print(productIdList[index])

    if productIdList[index] == 6 :
```

```
         ┌──────────────────┬───▼─┐
         │ while            │     │
    else │ for              │     │
         │ if               │     │
         │ break            │     │
         └──────────────────┴─────┘
```

Explanation: https://www.w3resource.com/python/python-while-loop.php