**Logo

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**San Francisco Bay University**

**Python Programming**

**Quiz #1**

**Student Name: Student ID:**

1. Define a function in recursion to check if there is a digitwith value *7* in positive number argument or not.

***def*** *has\_seven(k):*

*"""Returns True if at least one of the digits of k is a 7, False otherwise.*

*>>> has\_seven(3)*

*False*

*>>> has\_seven(7)*

*True*

*>>> has\_seven(2734)*

*True*

*>>> has\_seven(2634)*

*False*

*>>> has\_seven(734)*

*True*

*>>> has\_seven(7777)*

*True*

*"""*

*def has\_seven(k):*

*if k == 0:*

*return False*

*elif k % 10 == 7:*

*return True*

*else:*

*return has\_seven(k // 10)*

*def check\_number(number):*

*if number < 0 or number > 9999:*

*print(f"{number} is out of range or a negative number")*

*elif has\_seven(number):*

*print(f"{number} contains the digit 7")*

*else:*

*print(f"{number} does not contain the digit 7")*

*def main():*

*while True:*

*try:*

*user\_input = int(input("Enter a number (or 'q' to quit): "))*

*if user\_input == 'q':*

*break*

*check\_number(user\_input)*

*except ValueError:*

*print("Invalid input. Please enter a valid number.")*

*if \_\_name\_\_ == "\_\_main\_\_":*

*main()*