DIGIMA LOGIC EXAMINATION

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Programming Language: Python
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Question #1

```
num1 = int(input("Enter first number: "))
num2 = int(input("Enter second number: "))
count = 0
while num2 < 999:
    count = count + 1
    if count == 11:
     break
    print(num1, end=".")
    num1, num2 = num2,num1+num2
```

Question #2

```
import math
num1=int(input("Enter first number : "))
result=""
binary=""
while num1>=1:
    result+=str(num1%2)
    num1=math.floor(num1/2)
for i in range(len(result)-1,-1,-1):
    binary = binary + result[i]
print(binary)
```

Question #3

```
import math
def primeFactors(num1):
   while num1 % 2 == 0:
      print ("%d X" %2, end=" "),
      num1 = num1 / 2
   for i in range(3,int(math.sqrt(num1))+1,2):
      while num1 % i== 0:
         print (i, end=" X ")
         num1 = num1 / i
   if num1 > 2:
      print (num1, end=" ")
num1 = int(input("Enter any number: "))
primeFactors(num1)
```

Question #4

```
def squareRoot(num1) :
    if (num1 == 0 or num1 == 1) :
        return num1
    start = 1
    end = num1
    while (start <= end) :
        mid = (start + end) // 2
        if (mid*mid == num1) :
            return mid
        if (mid * mid < num1) :
            start = mid + 1
            result = mid
        else:
            end = mid-1
    return result
num1 = int(input("Enter any number: "))
print(squareRoot(num1))
```

Question # 5

```
num1 = int(input("Enter any odd number: "))
if (num1 % 2) == 0:
   print("Only odd numbers are allowed.".format(num1))
else:
   print("True".format(num1))
```