Introduction to Programming

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Lecture 6

```
while expression:
    statements
```

Loops 〉 For

```
for element in iterable:
    statements
```

Nested Loops 〉 Question

```
*
**
***
****
*****
```

Nested Loops 〉 While

```
i = 1
n = int(input())
while i <= n:
  j = 1
  while j <= i:
    print(“*”,end=”)
    j = j+1
  print(“ ”)
  i = i+1
```

Nested Loops 〉 For

```
n = int(input())
for i in range(0,n):
  for j in range(0,i+1):
    print(“*”,end=”)
  printf(“ ”);
```

Nested Loops 〉 Question

```
*

##

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####

*****
```

Nested Loops 〉 For

```
n=int(input()
for i in range(0,n):
  for j in range(0,i+1):
    if (i+1)% 2 == 0:
      print(“#”,end=”)
    else:
      print(“*”,end=”)
  print(“ ”)
```

```
while expression:
    statements
    break
    statements
```

Break 〉 For

```
for element in iterable:
    statements
    break
    statements
```

Break 〉 Question

Find whether a given number is prime or not.

Break 〉 Prime

```
n = int(input())
i = 2
while i < n:
  if n% i == 0:
    print(“Not Prime”)
  i = i + 1
```

Break 〉 Prime

```
n = int(input())
i = 2
flag = 0
while i < n:
  if n% i == 0:
    flag = 1
  i = i + 1
if flag == 0:
  print(“Prime”)
else:
  print(“Not Prime”)
```

Break 〉 Prime

```
n = int(input())
i = 2
flag = 0
while i < n:
  if n% i == 0:
    flag = 1
    break
  i = i + 1
if flag == 0:
  print(“Prime”)
else:
  print(“Not Prime”)
```

Break 〉 Prime

```
n = int(input())
i = 2
while i < n:
  if n% i == 0:
    break
  i = i + 1
if n == i:
  print(“Prime”)
else:
  print(“Not Prime”)
```

Break 〉 Prime

```
n = int(input())
i = 2
while i < (n/2):
  if n% i == 0:
    break
  i = i + 1
if (n/2) >= i:
  print(“Prime”)
else:
  print(“Not Prime”)
```

That's It 〉 Questions?

Thank You

For Your Kind Attention