**Lab # 5**

* **Write a program that prints numbers from 100 to 150 on the screen.**

**Ans:**

for num in range(100, 151):

Print(num)

**Output:**

100

101

102

103

104

105

106

107

108

109

110

111

122

113

114

115

116

117

118

119

120

121

122

123

124

125

126

127

128

129

130

131

132

133

134

135

136

137

138

139

140

141

142

143

144

145

146

147

148

149

**[Program Finished]**

* **Write a program that prints only the even numbers from 50 to 100.**

**Ans:**

for number in range(50, 101):

if number % 2 == 0:

print(number)

**Output:**

50

52

54

56

58

60

62

64

66

68

70

72

74

76

78

80

82

84

86

88

90

92

94

96

98

100

**[Program Finished]**

* **Write a program that prints only the odd numbers from 100 to 150.**

**Ans:**

for num in range(100, 151):

if num % 2 != 0:

print(num)

**Output:**

101

103

105

107

109

111

113

115

117

119

121

123

125

127

129

131

133

135

137

139

141

143

145

147

149

**[Program Finished]**

* **Write a program that prints the table of a number entered by the user using both For loop and While loop.**

**Ans:**

**For Loop**

Number = int(input(“Enter a number: “))

print(f”Table of {number} using for loop:”)

for I in range(1, 11):

print(f”{number} x {i} = {number \* i}”)

**While Loop**

Number = int(input(“Enter a number: “))

I = 1

print(f”Table of {number} using while loop:”)

while I <= 10:

print(f”{number} x {i} = {number \* i}”)

I += 1

**Output:**

Enter a number: 17

Table of 17 using for loop:

17 x 1 = 17

17 x 2 = 34

17 x 3 = 51

17 x 4 = 68

17 x 5 = 85

17 x 6 = 102

17 x 7 = 119

17 x 8 = 136

17 x 9 = 153

17 x 10 = 170

**[Program Finished]**

* **Write a program that when runs, reads input typed the user and quits only when user types a ‘quit’ character.**

**Ans:**

While True:

User\_input = input(“Type something (type ‘quit’ to exit): “)

if user\_input.lower() == ‘quit’:

print(“Exiting program.”)

break

else:

print(f”You typed: {user\_input}”)

**Output:**

Type something (type ‘quit’ to exit): quit

Exiting program.

[Program finished]

* **Write a program that computes the factorial of a number entered by the user.**

**Ans:**

num = int(input("Enter a number: "))

factorial = 1

for i in range(1, num + 1):

factorial \*= i

print(f"The factorial of {num} is: {factorial}")

**Output:**

Enter a number: 5

The factorial of 5 is: 120

[Program finished]

* **Write a program that determines whether a number (entered by the user) is prime Or not.**

**Ans:**

num = int(input("Enter a number: "))

if num > 1:

for i in range(2, int(num\*\*0.5) + 1):

if num % i == 0:

print(f"{num} is not a prime number.")

break

else:

print(f"{num} is a prime number.")

else:

print(f"{num} is not a prime number.")

**Output:**

Enter a number: 7

7 is a prime number.

**[Program finished]**

* **Write a program that prints divisible numbers of a given number.**

**Ans:**

num = int(input("Enter a number: "))

print(f"The numbers divisible by {num} are:")

for i in range(1, 101):

if i % num == 0:

print(i)

**Output:**

Enter a number: 4

The numbers divisible by 4 are:

4

8

12

16

20

24

28

32

36

40

44

48

52

56

60

64

68

72

76

80

84

88

92

96

100

**[Program finished]**

* **Write a program that lets user enter 10 (later any number of) numbers and then count how many were odd and even.**

**Ans:**

odd\_count = 0

even\_count = 0

for \_ in range(10):

num = int(input("Enter a number: "))

if num % 2 == 0:

even\_count += 1

else:

odd\_count += 1

print(f"Number of even numbers: {even\_count}")

print(f"Number of odd numbers: {odd\_count}")

**Output:**

Enter a number: 3

Enter a number: 3

Enter a number: 4

Enter a number: 5

Enter a number: 6

Enter a number: 7

Enter a number: 8

Enter a number: 9

Enter a number: 2

Enter a number: 6

Number of even numbers: 5

Number of odd numbers: 5

**[Program finished]**

* **Write a program that prints Fibonacci series.**

**Ans:**

Num\_terms = int(input(“Enter the number of terms in the Fibonacci series: “))

A, b = 0, 1

print(“Fibonacci series:”)

for \_ in range(num\_terms):

print(a, end=” “)

A, b = b, a + b

**Output:**

Enter the number of terms in the Fibonacci series: 4

Fibonacci series:

0 1 1 2

**[Program finished]**

**QUESTIONS:**

**Q # 1: Write Python code for a loop that runs infinitely. It only exits when the user presses ‘q’ key**

**Ans:**

while True:

user\_input = input("Press 'q' to exit: ")

if user\_input.lower() == 'q':

break # Exit the loop if 'q' is entered

**Q # 2: Consider the following code. What output will be generated by this code?**

s = "American Standard Code for Information Interchange"

l = len(s)

i = 0

while i <= l - 1:

if s[i].isupper():

print(s[i], end="")

i += 1

else:

i += 1

continue

**Ans**: ASCII

**Q # 3: Predict the output**

i = 97

while i <= 121 :

print("{}-{}".format(chr(i-32),chr(i)))

i+=6

**Ans**.

A-a

G-g

M-m

S-s

Y-y

**Q # 4: Consider the following code. How many times “23 AI” will be printed as the output?**

for i in range(1,50,4):

for j in range(1,i+1):

if(i==j):

print("23 CYS")

**Ans**. The output "23 CYS" will be printed 12 times.

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