

Objectives

- ☐ To learn pattern printing using loops in Python.
- ☐ To perform basic string manipulations and indexing.

Outcomes

After completing this week, the students would be able to:

- ☐ Print various patterns using loops.
- ☐ Manipulate strings and perform operations based on string indexes.

Problems

1. Write a program to print the following pattern using the for loop:

Print Pattern

```
for i in range(5, 0, -1):

for j in range(i, 0, -1):
```

print(j, end="")

print()

```
5 4 3 2 1
4 3 2 1
3 2 1
2 1
1
PS C:\Users\hp\Documents\Suhel\3rd - Sem\Lab-Manual-III> []
```

2. Write a program to print the following star pattern using the for loop:

```
# Print Pattern
for i in range(6):
   for j in range(0, i):
      print("*", end="")
   print()
for i in range(4, 0, -1):
   for j in range(i, 0, -1):
      print("*", end="")
   print()
PS C:\Users\hp\Documents\Suhel\3rd - Sem\Lab-Manual-III>
3. Write a program to print characters from a string which are present at even index numbers.
# print characters from a string which are present at an even index
str1 = "This is a string"
ans = ""
for i in str1[0::2]:
   print(i, end="")
Ti sasrn
PS C:\Users\hp\Documents\Suhel\3rd - Sem\Lab-Manual-III>
4. Write a program to accept a string from the user and display characters that are present at even
index numbers.
# print characters from a string which are present at an even index
str1 = input("Enter a string:")
ans = ""
for i in str1[0::2]:
   print(i, end="")
Enter a string : this is a string
ti sasrn
PS C:\Users\hp\Documents\Suhel\3rd - Sem\Lab-Manual-III>
```

5. Write a program to remove characters from a string starting from the nth position to the last and return a new string. Example: remove_chars("aligarh", 3) should output ali.

