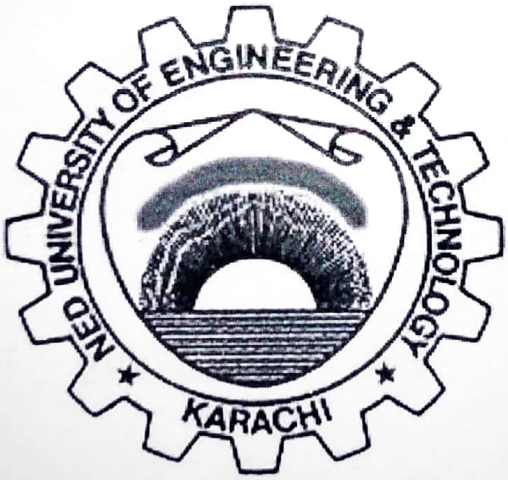
Practical Workbook

PROGRAMMING FUNDAMENTALS

(CT – 175)



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- If we want to count the number of times either one particular character or a sequence of characters shows up in a string, we can do so with the **count().**
- We can also find at what position a character or character sequence occurs in a string. We can do this with the **find()** method, and it will return the position of the character based on index number.

Lab Exercise:

1. Write a Python program that store a person's name in a variable and then print that person's name in uppercase, and titlecase.

```
name = input("Enter your name:\t")
print(name.upper())
print(name.title())
```

2. Write a Python program that store a string in a variable and ask some word in the given string using find() and return their index value as output.

```
str = input("Enter any string")
word = input("What letter do you want
        to find in the string")
print(str.find(word))
```

3. Write a Python program to lowercase first "n" characters in a string.

```
name = input("Enter any string")
num = int(input("Enter the number
      of digits you want to lowercase:"))
print(name[:num].upper()+name[num:])
```

4. Write a Python program that asks users for their favourite color. Create the following output (assuming blue is the chosen color) (hint: use '+' or '*')

blueblueblueblueblueblueblueblueblueblue

```
c = input("Enter your favorite colour")
print(c*10)
```

Lab Exercise:

1. Write a program that generate square of 1 to 10 numbers (using for loop).

```
for i in range(1, 11):
    print(i, i*i)
```

2. Write a program that take a user input and to create the multiplication table (from 1 to 10) of that number.

```
num=int(input("Enter table number:\t"))
count = 1
while count<=10:
    result= num* count
    print(num," x",count," =",result)
    count+=1
```

3. **Write a program that generates fibonicca series i.e. 1, 2, 3, 5, 8, 13, 21....**

```
num = int(input("Enter the range:\t"))
x = 0
y = 1
z = 1
while (z<=num):
    print(z, end=" ")
    x = y
    y = z
    z = x+y
```

4. Write a program that generates the following pattern (using loop):

```
1
12
123
1234
12345
```

```
for i in range(1,6):
    for j in range(1, i+1):
        print(j, end=" ")
    print("\n")
```

Lab Exercise:

1. Write a python program for Stages of Life: Write an if-elif-else chain that determines a person's stage of life. Set a value for the variable age, and then:

   - If the person is less than 2 years old, print a message that the person is a baby.
   - If the person is at least 2 years old but less than 4, print a message that the person is a toddler.
   - If the person is at least 4 years old but less than 13, print a message that the person is a kid.
   - If the person is at least 13 years old but less than 20, print a message that the person is a teenager.
   - If the person is at least 20 years old but less than 65, print a message that the person is an adult.
   - If the person is age 65 or older, print a message that the person is an elder.

```
age=int(input("Enter person's age"))
if (age < 2):
    print("Baby")
elif age == 2 or age<4:
    print("Toddler")
elif age ==4 or age < 13:
    print("Kid")
elif age ==13 or age <20:
    print("Teenager")
elif age == 20 or age<65:
    print("Adult")
elif age >=65:
    print("Elder")
else:
    print("Something went wrong")
```

2. Write a Python program that prints all the numbers from 1 to 20 except 9 and 13. (Note : Use 'continue' statement).

```
for i in range(1,21):
    if i==9 or i==13:
        continue
    print(i, end = " ")
```

3. Write a program to determine whether a year entered through the keyboard is a leap year or not.

```
year = int(input("Enter year:\t"))
if year % 4 == 0:
    print("Its a leap year")
else:
    print("Its not a leap year")
```

Lab Exercise:

1. Write a function called check_armstrong() that accepts one parameter as number. The function should return value whether the entered number is an Armstrong number or not.

```
num=input("Enter any number")
def check_armstrong(x):
    length=len(x)
    ans=0
    for y in x:
        power=int(y)**length
        ans= ans + power
    if ans==int(x):
        return("True")
    else:
        return("False")
val=check_armstrong(num)
if val=="True":
    print(int(num),"is an Armstrong num")
else:
    print(int(num),"is not an Armstrong num")
```