

GLS UNIVERSITY
Faculty of Computer Applications & IT
Integrated MCA

221601506 Practicals on Python

Practical Assignment Unit – 4
(30th August, 2024 to 31st August, 2024)

1.
 - Create classes Employee, Manager, and Developer.
 - Classes Manager and Developer inherits Employee.
 - Create appropriate methods to get details and display details for all classes.
 - Implement constructors and destructors for same.
 - Modify the Employee class to include a method that calculates a bonus based on the salary.
 - Modify the Manager and Developer classes to utilize this method.
 - Add a new class called Intern that also inherits from Employee.
 - The Intern class should have an additional attribute duration (in months).
 - Implement methods to display intern details and calculate a stipend based on the duration.

2.
 - Create classes Person, Student, and Result.
 - Classes: Person (base class), Student (inherits from Person), and Result (inherits from Student).
 - Create appropriate methods to get and display details for all classes.
 - Implement constructors and destructors for each class.
 - Modify the Result class to include a method that calculates and displays the highest and lowest marks obtained by the student.
 - Add a new class called HonorsResult that also inherits from Result.
 - The HonorsResult class should have an additional attribute for honors classification (e.g., "First Class", "Second Class", etc.).
 - Implement methods to display the honors classification and determine if the student qualifies for honors based on their average marks.

3.
 - Create classes Device, Smartphone, and FeaturePhone.
 - Classes:
 - Device (base class)
 - Smartphone (inherits from Device)
 - FeaturePhone (inherits from Device)
 - Create appropriate methods to get and display details for all classes.
 - Implement constructors and destructors for each class.
 - Modify the Smartphone class to include a method that calculates and displays the available storage space based on the total storage and used storage.
 - Modify the FeaturePhone class to include a method that calculates and displays the battery life based on the battery capacity and usage rate.
 - Add a new class called GamingSmartphone that also inherits from Smartphone.
 - The GamingSmartphone class should have an additional attribute for gaming-specific features (e.g., "High Refresh Rate", "Enhanced Cooling").
 - Implement methods to display gaming features and determine if the smartphone is suitable for gaming based on these features.