CHALLENGE 3 UML DIAGRAM

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| --- |
| Employee |
| -name: string -number: int -date: string |
| Employee() Employee(n: string, num: int, d: string) +setName(n: string): void +setNumber(num: int): void +setDate(d: string): void +getName(): string +getNumber(): int +getDate(): string +operator<<(ostream&, const Employee&): ostream& |

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| --- |
| ProductionWorker (inherits from Employee) |
| -shift: int -hourlyRate: double |
| +ProductionWorker() +ProductionWorker(n: string, num: int, d: string, s: int, r: double) +setShift(s: int): void +setHourlyRate(r: double): void +getShift(): int +getHourlyRate(): double +operator<<(ostream&, const ProductionWorker&): ostream& |

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| --- |
| TeamLeader (inherits from ProductionWorker) |
| -bonus: double -trainingHours: int |
| +TeamLeader() +setBonus(b: double): void +setTrainingHours(th: int): void +getBonus(): double +getTrainingHours(): int +operator<<(ostream&, const TeamLeader&): ostream& |

CHALLENGE 4 UML DIAGRAM

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| --- |
| Time |
| -hours: int -min: int -sec: int |
| +Time() +Time(h: int, m: int, s: int) +setHours(h: int): void +setMin(m: int): void +setSec(s: int): void +getHours(): int +getMin(): int +getSec(): int +displayStandardTime(): void |

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| --- |
| MilTime (inherits from Time) |
| -milHours: int -milSeconds: int |
| +MilTime(mHours: int, mSeconds: int) +setTime(mHours: int, mSeconds: int): void +getHour(): int +getStandHr(): int +displayMilitaryTime(): void |

CHALLENGE 6 UML DIAGRAM

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| --- |
| GradedActivity |
| -score: double |
| +GradedActivity() +GradedActivity(s: double) +setScore(s: double): void +getScore(): double +getLetterGrade(): char |

|  |
| --- |
| Essay (inherits from GradedActivity) |
| -grammar: double  -spelling: double  -length: double  -content: double |
| Essay()  +setGrammar(g: double): void  +setSpelling(s: double): void  +setLength(l: double): void  +setContent(c: double): void  +getGrammar(): double  +getSpelling(): double  +getLength(): double  +getContent(): double  +calculateScore(): void |

CHALLENGE 7 UML DIAGRAM

|  |
| --- |
| PersonData |
| -lname: string  -fname: string  -address: string  -city: string  -state: string  -zip: string  -phone: string |
| PersonData() +setLastName(lastName: string): void +setFirstName(firstName: string): void +setAddress(addr: string): void +setCity(cty: string): void +setState(st: string): void +setZip(z: string): void +setPhone(ph: string): void +getLastName(): string +getFirstName(): string +getAddress(): string +getCity(): string +getState(): string +getZip(): string +getPhone(): string +operator<<(ostream&, const PersonData&): ostream& |

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| --- |
| CustomerData (inherits from PersonData) |
| -customernumber: int -mailingList: bool |
| CustomerData() +setCustomerNumber(number: int): void +setMailingList(isOnList: bool): void +getCustomerNumber(): int +getMailingList(): bool +operator<<(ostream&, const CustomerData&): ostream& |

CHALLENGE 8 UML DIAGRAM

|  |
| --- |
| TheCustomer |
| - custLastName: string  - custFirstName: string  - custAddress: string  - custCity: string  - custState: string  - custZip: string  - custPhone: string  - custNumber: int  - custMailingList: bool |
| TheCustomer()  + setCustLastName(lname: string): void  + setCustFirstName(fname: string): void  + setCustAddress(addr: string): void  + setCustCity(cityName: string): void  + setCustState(stateName: string): void  + setCustZip(zipcode: string): void  + setCustPhone(phoneNumber: string): void  + setCustNumber(custNum: int): void  + setCustMailingList(mailList: bool): void  + getCustLastName(): string  + getCustFirstName(): string  + getCustAddress(): string  + getCustCity(): string  + getCustState(): string  + getCustZip(): string  + getCustPhone(): string  + getCustNumber(): int  + getCustMailingList(): bool |

|  |
| --- |
| PreferredCustomer (Inherits TheCustomer) |
| - purchasesAmount: double  - discountLevel: double |
| PreferredCustomer()  + setPurchasesAmount(amount: double): void  + getPurchasesAmount(): double  + getDiscountLevel(): double  - updateDiscountLevel(): void |

CHALLENGE 12 UML DIAGRAM

|  |
| --- |
| Ship |
| -name: string  -year: int |
| Ship()  +setName(name: string): void  +getName(): string  +setYear(year: int): void  +getYear(): int  +print(): void |

|  |
| --- |
| CruiseShip (inherits from Ship) |
| -noPassengers: int |
| CruiseShip() +setNoPassengers(noPassengers: int): void +getNoPassengers(): int +print(): void |

|  |
| --- |
| CargoShip (inherits from Ship) |
| -capacity: int |
| CargoShip() +setCapacity(capacity: int): void +getCapacity(): int +print(): void |