Constants

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| Name | Data Type | Purpose | Value |
| EXIT | String | Sentinel value for user to exit from current function. | “999” |
| MAX\_COURSES | Integer | Limit max courses that can be taken by student | 21 |
| GRADUATE\_CREDIT\_HOUR | Integer | To check whether student have achieved minimum credit hour that needed to graduate | 21 |

Variables

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| --- | --- | --- |
| **Name** | **Data Type** | **Purpose** |
| totalNumOfStudent | Integer | To store the current total number of student exist in Kolej Pasar |
| currentStudent | Integer | To store which is the current student log in |
| currentCourse | Integer | To store which is the current course editing |
| logInStatus | Integer | To store the log in status (whether log in or not) for student |
| adminLogInStatus | Integer | To store the log in status (whether log in or not) for admin |
| grades | String array | To store the grades exist |
| gradePoints | Double array | To store the grade point for each grade |
| admin | String array | To store admin name and lecture ID that can edit student detail |
| courseDetail | Structure | Structure that stores the detail of the course |
| course.courseCode | String | To store course code of the course |
| course.creditHour | Integer | To store credit hour of the course |
| course.semesterSession | Integer | To store which semester the student take this course |
| course.grade | String array | To store result of the course |
| course.gradePoint | Double | To store grade point convert from grade |
| course.quantityPoint | Double | To store quantity point for further calculation |
| studentDetail | Structure | Structure that stores detail of student |
| student.name | String | To store student’s name |
| student.id | String | To store student’s ID |
| student.ic | String | To store student’s IC |
| student.currentSemesterSession | Integer | To store student current semester session |
| student.numOfCourse | Integer | To store the number of course taken by student |
| student.totalCreditHour | Integer | To store the total credit hour of all of the course that taken by student for further calculation |
| student.totalQuantityPoint | Double | To store total quantity point of all the courses that have grade for further calculation |
| student.Gpa | double array | To store GPA of student |
| student.Cgpa | Double | To store CGPA of student |
| student.course | structure | To store course of student |
| choice | Integer | Local variable in menu function to store the choice of the user to proceed switch case |
| lectureId | String | Local variable in admin log in function to do validation for lecture ID |
| studentId | String | Local variable in student log in function to do validation for student ID |
| studentIc | String | Local variable in student log in function to do validation for student IC and check whether this IC is the same person with student ID |
| creditHour | Integer array | Local variable in calculate GPA function to store credit Hour according to the index to separate and identify which semester |
| semesterSession | Integer array | Local variable in calculate GPA function to store semester session no. according to index to check this index is which semester |
| totalCreditHour | Integer array | Local variable in calculate GPA function to store total credit hour for each semester |
| quantityPoint | Double array | Local variable in calculate GPA function to store quantity point according to the index to separate and identify which semester |
| totalQuantityPoint | Double array | Local variable in calculate GPA function to store total quantity point for each semester |
| temp | Integer | Local variable in function that need temporary stored number for example for loop. |