Assignment

Introduction to Data Science

Marks 5

Due date: 24-10-2023 at 01:30 PM

Question: Consider the following data about population

|  |  |  |
| --- | --- | --- |
| **Age** | **Income** | **Savings** |
| 20 | 100,000 | 50,000 |
| 22 | 120,000 | 40,000 |
| 32 | 80,000 | 5,000 |
| 40 | 350,000 | 10,000 |
| 50 | 50,000 | 0 |
| 36 | 150,000 | 30,000 |
| 47 | 250,000 | 8,000 |

1. You are required to predict the income of the following ages by using the specified regression method:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Age | Predicted Income | | Predicted Savings | |
|  | Linear Regression | Polynomial Regression | Linear Regression | Polynomial Regression |
| 25 | 130884.98745969185 | -11054.004768567 | 35260.12182013615 | 24868.14542484528 |
| 30 | 143649.2296667861 | 35151.9123377949 | 28050.34037979218 | 15183.634919329139 |
| 35 | 156413.4718738803 | 176598.65819574706 | 20840.558939448216 | 14756.230567004939 |
| 40 | 169177.71408097455 | 302269.4957322646 | 13630.777499104253 | 16552.76008173829 |
| 45 | 181941.9562880688 | 301147.6878743144 | 6420.996058760284 | 13540.051177395508 |