**Istanbul University School of Business**

**Introduction to Statistics Week 9 October 2012 Tutorial Material**

1. Monthly productivity values of 20 workers are as follows. Estimate the mean productivity and describe the distribution using the skewness and kurtosis measures.

|  |  |
| --- | --- |
| Monthly Productivity (items/hour) | Number of workers |
| 10 | 5 |
| 12 | 6 |
| 14 | 5 |
| 15 | 2 |
| 19 | 2 |

1. The distrubution of 60 workers’ monthly salaries and family sizes are displayed below. According to which feature may these workers be considered as more homogeneous? Find the maximum salary of the 75% of the workers. Examine the distributions using relevant skewness and kurtosis measures.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Monthly Salaries (100 TL) | Number of Workers |  | Family Size | Number of Workers |
| 5 – less than 8 | 7 |  | 2 | 20 |
| 8 – less than 11 | 11 |  | 3 | 12 |
| 11 – less than 14 | 14 |  | 4 | 11 |
| 14 – less than 17 | 16 |  | 5 | 8 |
| 17 – less than 20 | 12 |  | 6 | 7 |
|  |  |  | 7 | 2 |
|  |  |  |  |  |

1. The employment to population ratio of females above the age 15 and the life expectancy of females at birth for high income OECD countries in 2008 are given as follows. Examine and describe these countries using the appropriate descriptive statistics.

|  |  |  |
| --- | --- | --- |
| Countries | Employment to population ratio | Life expectancy of females |
| Australia | 83.70 | 52.70 |
| Austria | 83.28 | 47.30 |
| Belgium | 82.90 | 39.70 |
| Canada | 83.28 | 56.40 |
| Czech Republic | 80.52 | 45.70 |
| Denmark | 80.99 | 54.80 |
| Finland | 83.28 | 50.40 |
| France | 85.20 | 42.20 |
| Germany | 82.67 | 44.80 |
| Switzerland | 84.61 | 53.60 |