



LIFEGUARD SERVICES AT MYRTLE BEACH



Mitchell Buchannon is Director of Lifeguard Services at Myrtle Beach, South Carolina. Buchannon is trying to plan the lifeguard schedule for the coming season. In any given week the number of beach-goers typically peaks on the weekends and drops off during mid-week. As a result, the demand for lifeguards follows this same pattern. Using historical data, Buchannon has determined that he needed to provide the following minimum number of lifeguards each day of the week:

Day of Week	Lifeguards Required
Monday	18
Tuesday	16
Wednesday	14
Thursday	12
Friday	17
Saturday	19
Sunday	21

All of the lifeguards are scheduled to work for five consecutive days and then have two days off, although they may be required to begin their work schedule on any day. The base pay for lifeguards is \$600 per week. Because the lifeguards like to have Saturday and/or Sunday off, Buchannon has agreed to pay bonuses of \$25 per day for weekend work. He also agreed to a \$10 bonus on Thursdays since that was beach cleanup day. The possible shifts, and their corresponding salaries, are thus as follows:

Shift	Starting Day	Days Off	Wage
1	Monday	Saturday & Sunday	\$610
2	Tuesday	Sunday & Monday	\$635
3	Wednesday	Monday & Tuesday	\$660
4	Thursday	Tuesday & Wednesday	\$660
5	Friday	Wednesday & Thursday	\$650
6	Saturday	Thursday & Friday	\$650
7	Sunday	Friday & Saturday	\$635

Buchannon is trying to determine a minimum cost schedule that meets the required daily demands for lifeguards.