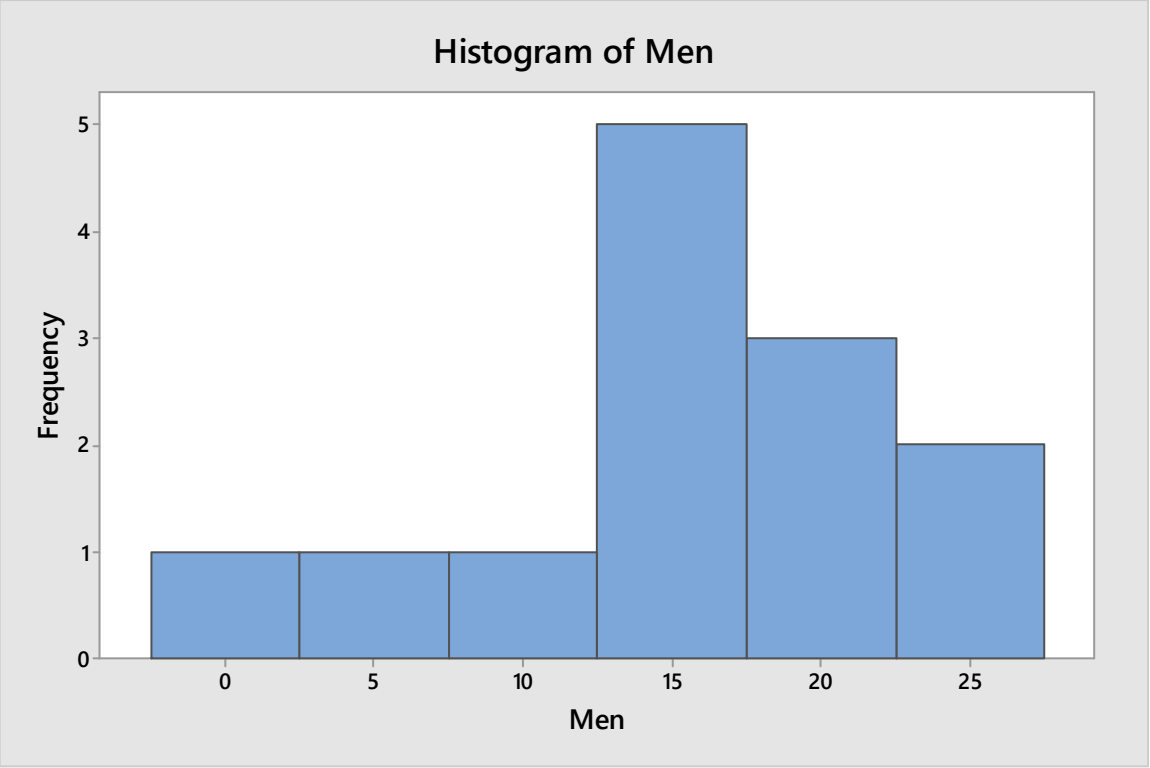
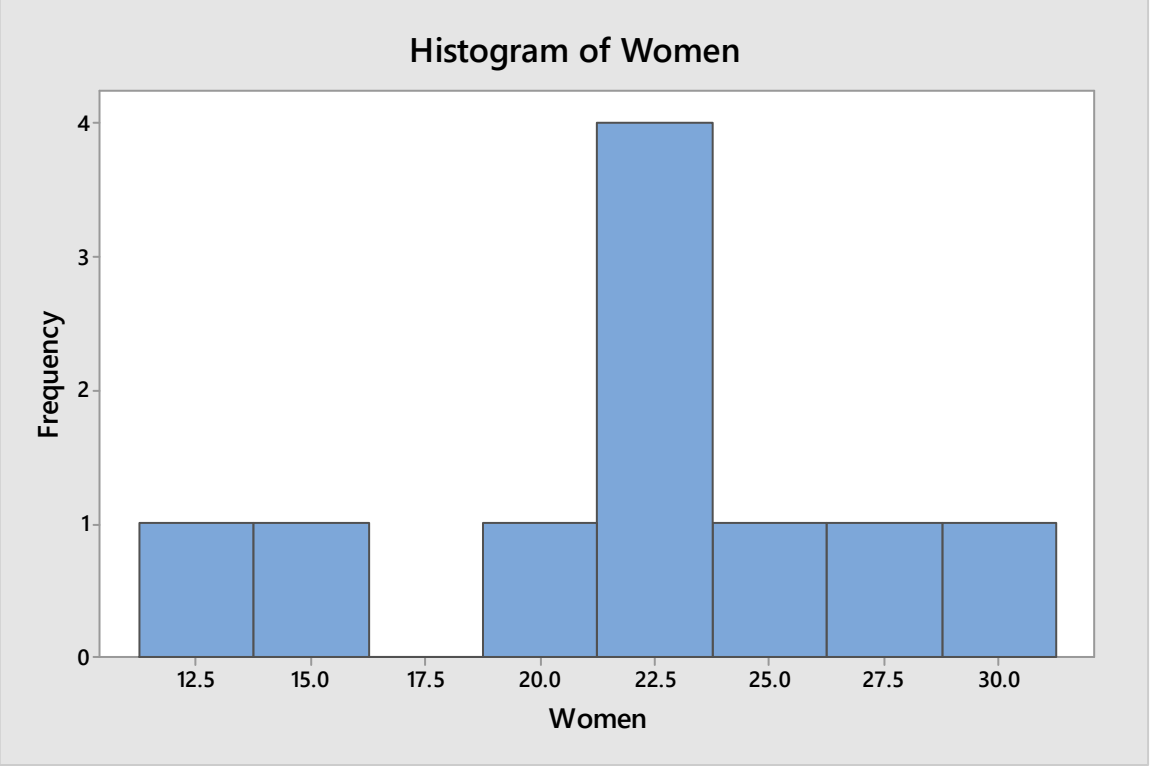
Minitab Project Report

a) Draw histograms and summary statistics for men and women.





Descriptive Statistics: Men, Women

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Men	13	0	14.95	1.90	6.84	1.00	10.65	15.00	19.50	25.00
Women	10	0	22.29	1.68	5.32	12.00	19.75	22.50	26.50	30.00

For men:
Sample size n1=13
Mean=14.95
Standard deviation=6.84

For Women:
Sample size n2=10
Mean=22.29
Standard deviation=5.32

b) Based on these observations perform a two sample t-test and hypothesis testing.
(do tests for both equal and unequal variances

For unequal variance:

Assume H0:mu1=mu2
H1:mu1=/mu2
alpha=0.01

Two-Sample T-Test and CI: Men, Women

Two-sample T for Men vs Women

	N	Mean	StDev	SE Mean
Men	13	14.95	6.84	1.9
Women	10	22.29	5.32	1.7

Difference = μ (Men) - μ (Women)
Estimate for difference: -7.34
99% CI for difference: (-14.56, -0.13)
T-Test of difference = 0 (vs ≠): T-Value = -2.90 P-Value = 0.009 DF = 20

P value= 0.009<0.01
So we can reject null hypothesis
This is because P value is less than our pre-determined level of significance of alpha=0.01.

For equal variance:

Assume H0:mu1=mu2
H1:mu1=/mu2
alpha=0.01

Two-Sample T-Test and CI: Men, Women

Two-sample T for Men vs Women

	N	Mean	StDev	SE Mean
Men	13	14.95	6.84	1.9
Women	10	22.29	5.32	1.7

Difference = μ (Men) - μ (Women)
Estimate for difference: -7.34
99% CI for difference: (-14.77, 0.08)

T-Test of difference = 0 (vs ≠): T-Value = -2.80 P-Value = 0.011 DF = 21
Both use Pooled StDev = 6.2356

P-value=0.011>0.01
So we can't reject null hypothesis.
This is because P value is greater than our pre-determined level of significance of alpha= 0.01