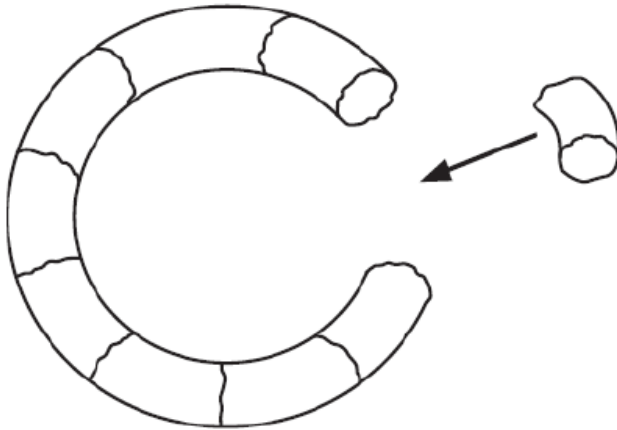


## Homework 1-Genetic Engineering

1.

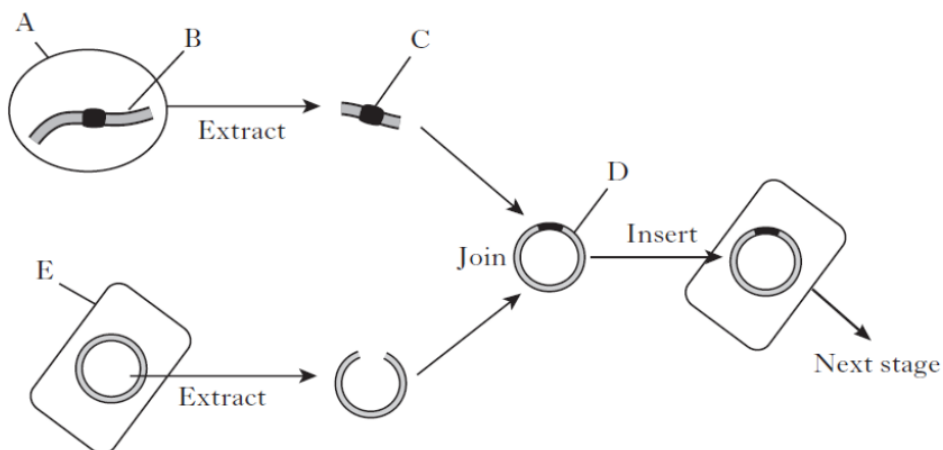
Which stage in the production of human insulin by genetic engineering is represented in the diagram below?



- A Human gene is inserted into a plasmid.
- B Human gene is inserted into a bacterium.
- C Plasmid is inserted into a human chromosome.
- D Bacterial gene is inserted into a human chromosome.

2.

The diagram below represents some of the stages of genetic engineering which are used to produce medicines such as insulin for human use.



(a) Complete the table below to identify the labelled parts of the diagram.

(a) Complete the table below to identify the labelled parts of the diagram.

<i>Name of structure</i>	<i>Letter</i>
bacterial cell	
insulin gene	
plasmid	

(b) Describe the next stage needed to produce insulin for use as a medicine.

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(c) Name another human hormone produced by genetic engineering.

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(d) State **one** advantage of genetic engineering.

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